UNIVERSITY OF TORONTO
3 1761 01244873 4

Digitized by the Internet Archive
in 2008 with funding from
Microsoft Corporation

http://www.archive.org/details/moneyrob00robeuoft

CAMBRIDGE ECONOMIC HANDBOOKS.—II

GENERAL EDITOR: J. M. KEYNES, M.A., C.B.

607

MONEY

MONEY

BY
D. H. ROBERTSON
M.A.
FELLOW AND LECTURER OF TRINITY COLLEGE, CAMBRIDGE

WITH AN INTRODUCTION BY
J. M. KEYNES
M.A., C.B.
FELLOW OF KING'S COLLEGE, CAMBRIDGE

204273
28. 6. 26

NEW YORK
HARCOURT, BRACE AND COMPANY

UNIVERSITY OF TORONTO LIBRARY
JAN 5 1932

COPYRIGHT, 1922, BY
HARCOURT, BRACE AND COMPANY, INC.

HG
221
R56
1922a

Printed in the U. S. A.

INTRODUCTION TO THE SERIES

THE Theory of Economics does not furnish a body of settled conclusions immediately applicable to policy. It is a method rather than a doctrine, an apparatus of the mind, a technique of thinking, which helps its possessor to draw correct conclusions. It is not difficult in the sense in which mathematical and scientific techniques are difficult; but the fact that its modes of expression are much less precise than these, renders decidedly difficult the task of conveying it correctly to the minds of learners.

Before Adam Smith this apparatus of thought scarcely existed. Between his time and this it has been steadily enlarged and improved. Nor is there any branch of knowledge in the formation of which Englishmen can claim a more predominant part. It is not complete yet, but important improvements in its elements are becoming rare. The main task of the professional economist now consists, either in obtaining a wide knowledge of *relevant* facts and exercising skill in the application of economic principles to them, or in expounding the elements of his method in a lucid, accurate and illuminating way, so that, through his instruction, the number of those who can think for themselves may be increased.

This Series is directed towards the latter aim. It is intended to convey to the ordinary reader and to the uninitiated student some conception of the general

principles of thought which economists now apply to economic problems. The writers are not concerned to make original contributions to knowledge, or even to attempt a complete summary of all the principles of the subject. They have been more anxious to avoid obscure forms of expression than difficult ideas; and their object has been to expound to intelligent readers, previously unfamiliar with the subject, the most significant elements of economic method. Most of the omissions of matter often treated in textbooks are intentional; for as a subject develops, it is important, especially in books meant to be introductory, to discard the marks of the chrysalid stage before thought had wings.

Even on matters of principle there is not yet a complete unanimity of opinion amongst professors. Generally speaking, the writers of these volumes believe themselves to be orthodox members of the Cambridge School of Economics. At any rate, most of their ideas about the subject, and even their prejudices, are traceable to the contact they have enjoyed with the writings and lectures of the two economists who have chiefly influenced Cambridge thought for the past fifty years, Dr. Marshall and Professor Pigou.

J. M. KEYNES.

PREFACE

§ 1. This book is intended to be a more or less self-contained unit: but it is also the second volume of a series. Its connection with its predecessor—Mr. Henderson's *Supply and Demand*—is to be found in the emphasis laid on the theory of money as a special case of the general theory of value. Its bearing upon the remainder of the series is to be found in the conclusion to which the book leads up, that Money is after all a fundamentally unimportant subject, in the sense that neither the most revolutionary nor the "soundest" monetary policy can be expected to provide a remedy for those strains and disharmonies whose roots lie deep in the present structure of industry, and perhaps in the very nature of man himself.

An attempt has been made to steer a middle course between the bare recapitulation of eternal platitudes, and excessive preoccupation with topical and transitory events. But at a time of rapid change the task is not an easy one. The plan of the book was laid in the summer of 1920, and though an effort has been made to keep it up-to-date, there are perhaps some things in it already, and there will be more by the time it is published, which would be the better for a change in emphasis and even perhaps in tense. But there is a point beyond which eleventh-hour revision ceases to be worth while; and where there is any doubt, and especially in connection with Chapter VIII, §§ 1–5, such

words as "now" and "present" should be taken to refer to the date at the foot of this preface.

§ 2. This is a work of exposition, and in no sense of orginality or research. I have therefore availed myself freely, and (except on a few rather special points) without detailed acknowledgment, of the ideas and the labors of others. Among published works, I desire to acknowledge my special indebtedness to the standard writings of Prof. Pigou, Prof. Cassel, Prof. Irving Fisher, Mr. R. G. Hawtrey, and Mr. Hartley Withers. For the rest, it is still an almost pardonable exaggeration to say that "monetary theory, in its most accurate form, has become in England a matter of oral tradition." [1] It has been my great good fortune to imbibe that tradition, at one remove from Dr. Marshall, and directly from Professor Pigou and Mr. J. M. Keynes. To the counsel and revision of Mr. Keynes, as well as to consultation with Mr. Henderson and other Cambridge colleagues, this book owes much of whatever merit it may possess. But the path of true doctrine is not always plainly marked: and for my strayings into the fields of error I must accept full blame.

D. H. R.

CAMBRIDGE,
March, 1921.

[1] *Economic Journal*, 1911, p. 393.

CONTENTS

CHAPTER I

THE MERITS AND DRAWBACKS OF MONEY

PAGE

§ 1. Introductory 1
§ 2. A Definition of Money 2
§ 3. The Advantage of Money to the Consumer. . 4
§ 4. The Advantage of Money to the Producer. . 6
§ 5. The Dangerous Ease of Borrowing and Lending Money 9
§ 6. The Evil Effects of Monetary Instability on the Distribution of Wealth 11
§ 7. The Evil Effects of Monetary Instability on the Creation of Wealth 13

CHAPTER II

THE VALUE OF MONEY

I. What is Meant by the Value of Money

§ 1. A Definition of the Value of Money . . . 17
§ 2. Changes in the Value of Money . . . 18
§ 3. Difficulties of Measurement 20
§ 4. Provisional Solution 24

II. How the Value of Money is Determined

§ 5. Resemblances between Money and other Things . 28
§ 6. Differences between Money and other Things . 30
§ 7. Money in Existence and Money Available . . 34
§ 8. Two Problems for Solution 37

CHAPTER III

THE QUANTITY OF MONEY

I. The Kinds of Money

PAGE

§ 1. Bank Money and Common Money: Legal Tender, Optional and Subsidiary Money . . . 39
§ 2. Convertible and Standard Money . . . 42
§ 3. Token and Full-bodied Money 44

II. The Quantity of Bank Money

§ 4. The Relation of Checks to Deposits . . . 47
§ 5. The Relation of Deposits to Reserves of Common Money 50
§ 6. The Magnitude of Bank Reserves . . . 53
§ 7. The Relation of Deposits to Common Money outside Bank Reserves 57

III. The Quantity of Common Money

§ 8. The Relation of Convertible Common Money to Standard Money 59
§ 9. The Quantity of Standard Money . . . 62
§ 10. The Meaning of a Gold Standard . . . 66
§ 11. The Quantity of Money and the Cost of Production of Gold 68
§ 12. The Gold Exchange Standard 71

CHAPTER IV

BANK MONEY AND THE PRICE-LEVEL

§ 1. Prima Facie Objections to Bank Loans . . 74
§ 2. A Provisional Justification of Bank Loans . 76
§ 3. Interest on Bank Loans 79
§ 4. The Possible Stagnation of the Banking System 82
§ 5. The Case for the Creation of Additional Bank Loans 84

PAGE

§ 6. Dangers Involved in Additional Bank Loans . 87
§ 7. The Inherent Tendency of the Banking System to Excessive Creation of Money . . . 91
§ 8. English Banking Policy 94

CHAPTER V

THE WAR AND THE PRICE-LEVEL

§ 1. Output and the Price-Level 98
§ 2. Gold Migration and the Price-Level . . . 100
§ 3. The War Debt and the Price-Level . . . 102
§ 4. Treasury Bills, Ways and Means Advances and the Price-Level 105
§ 5. Bank Loans and Treasury Notes 109
§ 6. Treasury Notes and the Price-Level . . . 111
§ 7. Cause and Effect in Relation to Money and the Price-Level 114

CHAPTER VI

THE QUESTION OF THE STANDARD

§ 1. The Case for a Price-Level varying inversely with Productive Power 118
§ 2. The Case for a gently rising Price-Level . . 122
§ 3. The Case against the Gold Standard . . . 125
§ 4. The Case for the Gold Standard . . . 128
§ 5. An Improved Standard 131

CHAPTER VII

THE FOREIGN EXCHANGES

§ 1. The Normal Rates of Exchange 135
§ 2. Price Movements and the Exchanges . . . 138
§ 3. Other Influences on the Exchanges . . . 141
§ 4. Some Fallacies about Exchange 144

PAGE

§ 5. Exchange under an International Token Money . 147
§ 6. Exchange under a Gold Standard 150
§ 7. The Degrees of Gold Standard 153

CHAPTER VIII

MONETARY POLICY

§ 1. The Causes of Falling Prices 156
§ 2. The Effects of Falling Prices 159
§ 3. Falling Prices and Trade Depression . . 161
§ 4. The English and American Price-Levels . . 164
§ 5. Revaluation of the Pound Sterling . . . 167
§ 6. The Manipulation of the Rate of Interest . 170
§ 7. The Rationing of Bank Loans 174
§ 8. Conclusion 177

MONEY

CHAPTER I

THE MERITS AND DRAWBACKS OF MONEY

"Crabs and all sorts of things," said the Sheep: "plenty of choice, only make up your mind. Now what *do* you want to buy?" *Through the Looking-glass.*

§ 1. *Introductory.* Money is not such a vital subject as is often supposed; nevertheless, it is an interesting and important branch of the study of economics. It is necessary for the economic student to try from the start to pierce the monetary veil in which most business transactions are shrouded, and to see what is happening in terms of real goods and services; indeed so far as possible he must try to penetrate further, and to see what is happening in terms of real sacrifices and satisfactions. But having done this he must return and examine the effects exercised upon the creation and distribution of real economic welfare by the twin facts that we do use the mechanism of money, and that we have learnt so imperfectly to control it.

And this is specially necessary at a time when the money systems of the world have ceased to work with the comparative ease and smoothness to which we had become accustomed, and are indeed for the most part thoroughly out of order. Almost everybody is directly

affected by, and acutely conscious of, the violent changes which have taken place in the purchasing power of money over the things which he wishes to buy; and most people are also, though less vividly, aware of the violent changes which have taken place in the purchasing power of the money of their own country over the money of other countries. This disorganization of the world's monetary apparatus has become a breeding-ground of real dangers and disharmonies, and to some extent also of illusory hopes and aspirations. It is necessary, therefore, to explore it thoroughly, if only to clear the approach to those more vital questions of the creation and apportionment of real wealth with which the later volumes of this series will be concerned. A monetary system is like some internal organ; it should not be allowed to take up very much of our thoughts when it goes right, but it needs a deal of attention when it goes wrong.

§ 2. *A Definition of Money.* It is clearly desirable to arrive at an early understanding of what we mean by money. There is no very general agreement upon this point; but as with so many other economic terms, it does not matter very much what meaning we adopt as long as we stick to it, or at any rate do not change it without being aware that we are doing so. In this book, the term money will be used to denote anything which is widely accepted in payment for goods, or in discharge of other kinds of business obligation. If things which are intended to be money—the notes of certain Governments, for instance—cease to be widely accepted in discharge of obligations, they cease to function as

money, and, from the point of view of the student at any rate, to *be* money. On the other hand, if things which have not been hitherto considered as money, such as tobacco or cattle or tins of bully-beef, become widely accepted in discharge of obligations, they become, in our present sense, money.[1]

This property of being widely acceptable generally, though not always, involves another, namely the property of being expressed in units, in terms of which it is common to reckon the value of all those goods and services which men are in the habit of exchanging with one another. This is what the textbooks on money mean to convey when they say that money is not only a "medium of exchange" but a "standard of value." But that statement as it stands does not quite fit in with the definition of money which we have chosen. It is not necessary that everything which is used as a medium of exchange should itself be also a standard of value, but only that it should be expressed in terms of something which *is* a standard of value. For instance, John Smith's checks may be widely accepted in discharge of his obligations, and are therefore rightly regarded, according to the definition which we have chosen, as money: and Bank of England five-pound notes are universally accepted in the United Kingdom in discharge of obligations, and are certainly money. But nobody reckons his income or conducts his business dealings in terms of John Smith's checks or even of

[1] Of the beer in which in effect wages were partly paid in the Staffordshire coal-mines in the middle of the nineteenth century, a recent historian remarks: "This currency was very popular and highly liquid, but it was issued to excess and difficult to store," Fay, *Life and Labor in the Nineteenth Century*, p. 197.

Bank of England notes: people reckon their incomes and conduct their transactions in terms of the pounds sterling of which John Smith's checks and Bank of England notes are expressed as multiples.

Money then is anything which is widely acceptable in discharge of obligations: but a thing will not as a rule be widely acceptable for this purpose unless it is expressed as a multiple of some unit which is regarded as a measure or standard of the value of things in general. This conception of a "standard of value" raises some difficulties, to which we must return later: and we must also postpone for the present a consideration of the different *kinds* of money which exist, and of the ways in which various money systems are built up out of them. Meanwhile what there is to be said applies to *all* money, defined as we have defined it.

§ 3. *The Advantage of Money to the Consumer.* The next question for our consideration is "What is the point of using money?" We have become so accustomed to the use of money that it requires a little exercise of imagination to realize how much we owe to it. But over large parts of the world to-day people have been deprived of the advantages of a sound system of money, and are finding out how inconvenient and even paralyzing the consequences may be.

The first great achievement of money is that it enables man as consumer to generalize his purchasing power, and to make his claims on society in the form which suits him best. If there were no money, people would have to be paid for their services in kind; and whether they were strictly rationed, or whether they

were allowed to help themselves to an unlimited extent, in either case there would be waste. For in the former case they would be encouraged to take more of certain goods and services, and forced to take less of others, than they really require; and in the latter case they would be tempted to be extravagant all round. The existence of a monetary economy helps society to discover what people want and how much they want it, and so to decide what shall be produced and in what quantities, and to make the best use of its limited productive power. And it helps each member of society to insure that the *means* of enjoyment to which he has access yield him the greatest amount of *actual* enjoyment which is within his reach—it gives him the chance of not surfeiting himself with car rides, or stinting himself unduly of the countenance of Charlie Chaplin.

How fully he avails himself of this opportunity depends on his aptitude for judging accurately of the relative amounts of enjoyment which different ways of spending a penny or a dollar would afford him, and on his strength of mind in acting on his judgment. Some people exploit to the full this opportunity of "making the most of their income": others settle down to a comfortable habit of customary expenditure, and regard immunity from excessive brain-wear about the spending of money, and from the keeping of meticulous accounts, as worth some leakage of material enjoyment. To waste satisfaction by "going on the burst" may even be itself a source of satisfaction. But in any case man values highly this privilege of spending his money income, that is of taking his real income, as he pleases—how highly you may see if you read the story of the

fight against the truck system of paying wages, or watch the faces of an engaged couple as they open the parcel containing their seventeenth writing-case.

There are indeed some services, such as the use of the roads, which we all of us receive without making specific payment. Further, in some callings, such as the army or domestic service, a more extensive payment in kind is generally recognized to be for the convenience of everybody concerned: and those who have given rein to their fancy in delineating the ideal economic society of the future have often contemplated some system of doles or rationing for the distribution of those staple commodities of which all human beings stand in need. But since even such an ideal society would not be likely to be infinitely rich, the total claim which any individual could make upon it would still have to be limited: and since individual tastes and requirements would presumably continue to differ, people would still have to be given a certain amount of latitude and discretion with regard to the form in which they presented part at any rate of their claims. In other words, money of some kind—certificates, that is to say, of a general title to real income, to be interpreted and particularized by the individual—would have to persist. The need for money then seems to be fundamental, if a given volume of productive power—a given poise of mankind in his relations with nature—is to be made to yield the greatest harvest of individual satisfaction which it is capable of yielding.

§ 4. *The Advantage of Money to the Producer.* The second great achievement of money is that it enables

man as producer to concentrate his attention on his own job, and so to add more effectively to the general flow of goods and services which constitutes the real income of society. Historically, the process of "commutation" of payments in kind into payments in money is found to be very closely bound up with the process of "differentiation" of various crafts and occupations: and logically the intimate connection between the two is not difficult to understand. The specialization and division of labor on which our economic structure is founded would be impossible if every man had to spend a large part of his time and energies in bartering his products for the materials of his industry and the goods which he requires for his own consumption.

This is especially true of the system of large-scale "capitalistic" production which is dominant to-day. The various forms which this system takes must be discussed in more detail in a future volume: but for our present purposes it is sufficiently accurate to describe it as one under which a large number of workmen work for wages under the orders of a "capitalist," who is responsible for the disposal of their joint product, and who allocates a share of the proceeds to the individual workmen. Now it would as a rule be intolerable from a business point of view if every large "capitalist"—say an ironmaster or the managing director of a railway company—had to lay in a store of all the things his workmen are likely to want and to dole them out to them. In certain conditions indeed, as experience shows, a partial arrangement of this kind may be put into force, either because it is a source of illicit profit to the "capitalist" (as under the old truck system), or

because it furnishes a special incentive to the workman (as in the case of the special butter wages allowed in 1919 to coal miners in Germany), or because (as in domestic service) it is manifestly to the convenience of both parties. But speaking generally it is far simpler, and is indeed the only practicable course, for the "capitalist" to pay his workmen money wages, which they accept in the confident expectation of being able to obtain with them the things which they require. The existence of money then seems to be a necessary condition for any great development of the division of labor not merely as between those who follow different crafts, but as between those who plan and initiate and control and those who do the day-work of the world. Whether this is a thing for money to be proud of is of course another matter: all that is urged here is that in so far as the capitalistic system of industry has been an indispensable instrument of material progress, money has been so too.

The third great achievement of money is closely allied to the second. It consists in this, that money immensely facilitates the making of loans and payments in advance of all kinds. Wage payments, which have been mentioned above, are in essence one form of such payment in advance. The "capitalist" will not be able to dispose finally of his product till it is in a finished state: but the workmen engaged on the preliminary stages must be enabled to live meanwhile, and money facilitates arrangements being made for this. The making of advances by one kind of business man to another is also rendered much easier by the existence of money: so is the investment or loaning of its savings

by the general public. Saving, and the lending of savings by one person to another, means in the last resort the saving and lending of real things, and it may exist without money: but so long at any rate as we rely for it upon individuals, it would be very cumbrous and difficult to arrange on a large scale without the aid of money. So for this reason too the existence of money seems to be essential to our modern system of production, which rests so largely upon the willingness of one man to transfer command over goods to another, in the expectation of being repaid either by that other or by some third party at a future date.

§ 5. *The Dangerous Ease of Borrowing and Lending Money.* But this third great achievement of a monetary economy is also one of its two great drawbacks and dangers. For it makes it so fatally easy to lend and to borrow—or to appear to lend and to borrow—things which are not really in existence at all, or even likely to come into existence. How this happens we shall see more clearly when we come to examine in detail the structure of modern monetary systems: but it may be convenient to give here one or two preliminary illustrations of what is meant. In the early days of the war the British Government wanted in effect to borrow from private citizens various things—lumps of steel and cloth and hay and such-like—for the prosecution of the war. But all it could do in fact was to borrow money, because that is the only thing which people are used to lending: and with the money so obtained it expected, with a touching confidence born of long years of the smooth working of a monetary economy, to be able to obtain

everything it wanted. But it soon found that it could not do so, and that it would have to make special and elaborate ordinances in order to obtain the things which it wanted, and even in some cases itself to undertake their production.

Our second illustration is from the ordinary conduct of industry. When there is a "boom" in the constructional trades—steel, shipbuilding, engineering and the rest—"capitalists" in these trades bid for the services of workpeople by offering them plentiful money wages. As was explained above, these wages are really in the nature of an advance, backed by the estimates made by the "capitalists" of the value which society will set on the buildings and ships and so forth which are in process of production. But what the workman wants these money advances for is to obtain the necessaries and conventional comforts of his life: and under a money-system there is no guarantee that these are being turned out as fast as the money wages are being handed over. Hence we may get a state of affairs when industry is active and wages high, but the necessaries of life are scarce; and then there is outcry and unrest: which is broadly what was happening during the two years after the armistice. If every business man had to make arrangements himself for feeding and clothing and amusing his employees before he embarked on any venture, as he might have to do if he were building a railway, say over the Andes, hundreds of miles from civilization, such maladjustments would not occur; but of course industrial progress would be very slow and difficult. As it is, the ease with which advances of every kind can be made in money oils the wheels of

material progress: but the result is that people tend to confuse the pieces of money, which are mere certificates of a right to draw goods which may not even exist, with the goods themselves, and to lay up all sorts of trouble and disillusionment for themselves. Adam Smith once compared money to a road, over which all the produce of a district passes to market, but which does not itself produce a single blade of anything. Nobody would be so foolish as to expect to eat a road: yet man is always being surprised afresh by the discovery that he cannot eat money, as the Turks are said to be surprised afresh each year by the advent of winter. He is so pleased with his ingenious invention that he is always expecting too much of it.

§ 6. *The Evil Effects of Monetary Instability on the Distribution of Wealth.* The second great disadvantage of money is one of which everybody to-day is acutely aware, namely that its value does not remain stable. We shall have to examine more carefully in a moment what we mean by this phrase, "the value of money:" for the present we may define it provisionally as the power of money to purchase the things people want. Now all of us, from landowner to laborer, are enabled to live because other people want our services, if we take that word in an extended sense to include the use of our possessions: and if the power of other people's money to buy our services always varied in exactly the same degree as the power of our money to buy other people's services, there is no reason why these variations in the purchasing power of money should matter to any of us. But in fact that is not the way things happen. Some

people sell their services on conditions which are fixed, by legal contract or by the force of custom, for a long time ahead in terms of money: other people are easily enabled or forced, as the case may be, to bring about alterations in the prices of the services they sell. The former group of people are clearly benefited by a rise and injured by a fall in the value of money: for in the former case they receive a greater and in the latter case a smaller power of command than they expected over the things which they require. The latter group of people tend to gain by a fall and to lose by a rise in the value of money: for they make use, whether for purposes of further production or for their own enjoyment, of the services of people whose money rewards are fixed, while their own money rewards are variable. Any change therefore, however slight, in the value of money, so long as it is not perfectly foreseen, leads to a certain redistribution of the real income of society between these two groups of persons.

A few years ago it was possible to lay down fairly definitely the classes of which each of these two groups was composed. Broadly speaking, the former comprised wage-earners, professional people (such as Government officials and schoolmasters), and those who had made loans, whether to Governments or to industrial companies, at a fixed rate of money interest. The latter group comprised the "business classes," those, that is, who derived an income from venturing and planning and controlling the production and sale of goods: for their money expenses for the hire of labor and capital remained relatively fixed, while their money incomes fluctuated with the prices of the things they

sold. At the present day this generalization is still partially true, but the situation has been greatly complicated by the increased power of certain sections of Labor and by the piecemeal interventions of the State. The violent fall in the value of money between 1914 and 1920 led to a great and often arbitrary redistribution of income not only between different social and industrial classes, but between the members of different callings in the same class. The reader, however, will probably recognize without much difficulty to which group he belongs. If he is a railway shareholder or an elementary school teacher or a certain type of skilled artisan, he will probably hold that he was "hit" by the fall in the value of money: if he is a shipowner or a railway porter he will probably admit to himself, though not to the world, that things did not work out so badly.

§ 7. *The Evil Effects of Monetary Instability on the Creation of Wealth.* But this is not all. If the effects of the instability of the value of money were confined to distribution, they might not be of such fundamental importance: for though the consequent changes might not bear much relation to social justice, they would not necessarily diminish the total economic welfare of society, and might even substantially increase it. The loss of some would be the gain of others: and the others might on the whole be the more necessitous and even the more deserving. But in fact any violent or prolonged exhibition of instability in the value of money affects not only the distribution but also the creation of real wealth: for it threatens to undermine the basis of contract and business expectation on which our economic

order is built up. That order is largely based on the institution of *contract*—on the fact, that is, that people enter into voluntary but binding agreements with one another to perform certain actions at a future date, for a remuneration which is fixed here and now in terms of money. And a violent or prolonged change in the value of money saps the confidence with which people make or accept undertakings of this nature. Nothing has been more significant in post-war business history than the wholesale attempts which have been made in certain industries and countries to repudiate contracts—to decline to make delivery of goods which were ordered when prices were lower, or to accept delivery of goods which were ordered when prices were higher. It is of course conceivable that contracts should be framed in terms of something other than money: it is even conceivable, or so some people assure us, that society should come to rely on some other method than free contract, such as the fiat of an industrial autocrat or the promptings of spontaneous benevolence, for getting its work done. But so long as reliance on the method of contract as we know it persists, so long are the vagaries of the value of money a potential cause of disaster.

None of us, however, can reduce the whole of his working life within the sphere of definite and formal contract: for the rest we live by calculation, expectation, faith. And these too are threatened, both by the instability of the value of money and by the attempts, necessarily impromptu and incomplete, which are made by society to minimize its evil results. For society, even when scrupulously regardful of contract, cannot always afford to be very tender towards more indefinite expec-

tations. It was, for instance, inevitable, though not altogether fortunate, that during the war those "capitalists" in Great Britain who were concerned with the rendering of the most indisputably necessary services—the provision of coal, of railway transport, of house-room—should be singled out for the most drastic attentions of the State and the Trade Unions. The present situation is indeed somewhat paradoxical. Just as the more obviously useful and important the industry in which a workman is employed, the more odium he incurs if he strikes to better his position, because he is "holding up society to ransom"; so the more obviously useful and important the direction in which a man has invested his savings, or exercised his brain-power, or shouldered the burden of risk, the greater precautions the State will take that the instability of the value of money should operate to his hurt. *Noblesse oblige:* but it is not altogether astonishing if those thus put under obligation grow peevish and threaten to refuse to play. Thus monetary disease and improvised remedy alike strike at those roots of undefined but not unreasonable anticipation, from which the tree of industry is still expected to derive so large a proportion of its sustenance.

Nor is it only changes in the power of money to purchase goods and services that play havoc with expectation and reasoned action. The ordinary citizen, unless he happens to have served in one of the Armies of Occupation, does not as a rule regard himself as directly interested in changes in the power of our money to buy the money of other countries: nevertheless they affect him deeply, in so far as his economic welfare depends

on the operations of foreign trade. For the tendency of these fluctuations in the foreign exchanges, as they are called, is to change the basis of foreign trade from a reasoned calculation of needs and resources to a chaotic speculation in foreign moneys. To some extent indeed the business world has already adapted itself to this perplexing environment. It has become more and more possible for those who only wish to deal in goods to protect themselves against the antics of the foreign exchanges by sloughing off the risks of monetary vagaries on to the specialized dealers in foreign money. But in so far as this device is still imperfectly known or used, the course of international trade is still warped. For to whom shall we export? Not to those who most require our goods, but to those who will pay us in a money which we hope to be able to sell dearly for the money of our own country. From whom shall we import? Not from those who have what we most need, but from those who will accept payment in a money which we hope to be able to buy cheaply with the money of our own country. Indeed, shall we export or import at all, seeing that the whole profits of a legitimate and beneficent interchange of goods may be wiped out by a turn of the money exchanges?

Thus money, which is a source of so many blessings to mankind, becomes also, unless we can control it, a source of peril and confusion.

CHAPTER II

THE VALUE OF MONEY

"When *I* use a word," Humpty Dumpty said in rather a scornful tone, "it means just what I choose it to mean—neither more nor less."

"The question is," said Alice, "whether you *can* make words mean different things."

"The question is," said Humpty Dumpty, "which is to be master—that's all." *Through the Looking-glass.*

I. What is Meant by the Value of Money

§ 1. *A Definition of the Value of Money.* In the last chapter we defined the phrase "the value of money" with sufficient accuracy for our immediate purpose, which was to exhibit the dangers which may threaten our economic life owing to the fact that that value is unstable. But logically we were skating on somewhat thin ice: and it is now time to inquire more closely what we mean by the value of money, and how it is determined.

By the value of money we mean something exactly analogous to what we mean by the value of anything else, say bread or cloth: that is to say, we mean the amount of things in general which will be given in exchange for a unit of money. The only difficulty arises from the fact that we are in the habit, for the sake of convenience, of expressing the value of bread or cloth in terms of money, whereas obviously we cannot express

the value of money in terms of itself. There is therefore no way in which we could express accurately the value of a dollar except by enumerating one by one all the different articles which it would buy: and this would clearly be too tedious for words. There are, however, as we shall see in a moment, ways—though not entirely satisfactory ways—of expressing *differences* in the value of a dollar between one time or place and another: and that is all that in practice we want to do. But in any case the difficulty is one of expression: it does not mean that when we speak of the value of money we are using the word value in any different sense from that in which we speak of the value of bread or cloth. If we wish to use the words in any other sense—to mean, for instance, the amount of labor or of gold which will be given in exchange for a unit of money—we must say so explicitly on each occasion.

§ 2. *Changes in the Value of Money.* The measurement of changes in the value of money has become a matter of considerable practical interest. Most English people permitted themselves now and again to indorse some such estimate of the extent of war-time changes as was conveyed in the reproachful but nebulous statements, that "a pound is only worth eight shillings," or that "half a crown goes as far as a shilling ought to go." And a good many English people, notably civil servants and railwaymen, find their money incomes definitely varying in accordance with some official estimate of changes in the value of money. But unfortunately the subject is also one of considerable theoretical difficulty. It is indeed the chosen paradise and playground of the

mathematicians, who have expended untold ingenuity upon it. One distinguished mathematical economist has gone so far as to conduct a kind of competitive examination of forty-four algebraical formulæ of increasing complexity, representing different methods of measuring the changes in the value of money, to which he has allotted marks in accordance with their possession of certain qualifications; and some of them make a very poor show indeed. Nevertheless some of the difficulties of the subject are very instructive, and are also implicit in the criticisms which the ordinary man is apt to make of current estimates: and it is therefore worth while to bestow a little attention upon them.

The problem of course is to build up, out of the figures showing the changes in the prices of particular things, an index-number, as it is called, of general prices, which shall show at a glance the change in the value of money. A rise in this index number will indicate a corresponding fall in the value of money—will indicate, that is, that a smaller bundle of things in general will be obtained in exchange for a given unit of money: and a fall in the index-number will indicate a corresponding rise in the value of money.

We may pass over lightly the *practical* difficulties in the way of constructing such an index-number; for they are sufficiently obvious. It is not always easy to get accurate figures of prices, except for certain staple commodities sold wholesale, though it is now being done with much greater success than it used to be. Again, it is not easy to be sure that the things whose prices we are comparing are the same thing: a car ride during which you sit down is not the same thing as a

car ride during which you have to keep on giving up your seat. But it will be more profitable to devote our attention to the more fundamental difficulties involved by the construction of an index-number of general prices.

First, then, before constructing our index-number we must be clear what purpose it is to serve. If it is to show the changes in the value of money in the most general sense, it must include all the things which are the subjects of exchange in the economic world, including land and houses and securities and so forth. If, on the other hand, we want it to indicate the cost of living for ordinary people, we shall leave out these things, and include only such goods and services as enter into ordinary consumption. Again, even so we must be clear *whose* cost of living it is, the change in which we are estimating. We must not, for instance, hastily apply a figure for the change in the cost of living among the working classes to express the change in the cost of living in college at Harvard. And in any case our figure cannot be accurate for persons of widely different tastes, even if they live in the same social environment. The value of money may have changed in widely different degree to the heavy drinker and the teetotaler. The person to whom our index-number applies is at best an abstraction: all we can do is to make him as representative as possible.

§ 3. *Difficulties of Measurement.* Secondly, when we have decided what things to include, the question arises as to how we are to combine the price movements of the several things in order to obtain our final index-

number. The obvious suggestion is that we should take the average of the several percentage price changes and regard that as the percentage change in general prices. But a simple example will show that this suggestion conceals a trap.[1] Let us suppose, to simplify matters, that we can regard two articles—say bread and beer—as sufficient to furnish us with a good index-number; and that we are comparing—it must be emphasized that the example is purely imaginary—conditions in the years 1900 and 1910. Suppose that during this period the price of bread was doubled and the price of beer was halved. Then if we represent the price of each in 1900 as 100, the price of bread in 1910 was 200 and the price of beer was 50. The sum of their prices is seen to have risen from 200 to 250, and the *average* price —our "index-number of general prices"—to have risen from 100 to 125. But if now we represent the price of each in 1910 as 100, the price of bread in 1900 appears as 50 and the price of beer as 200; so that the sum of their prices appears to have fallen between 1900 and 1910 from 250 to 200, and the average price to have fallen from 125 to 100. That is to say we get a *fall* of one-fifth instead of a *rise* of one-quarter in our "index-number of general prices." We thus get completely different results according to the year which we take as the starting-point of our calculations, or as the experts say as our *base:* and from the point of view of the historian there is obviously nothing particularly sacred about one year more than another.

[1] For the whole of the following discussion, cf. Pigou, *Wealth and Welfare*, Part I, Chap. III.

For convenience of inspection this result is set out again in the following table:

	I		II	
	1900	1910	1900	1910
Bread . . .	100	200	50	100
Beer . . .	100	50	200	100
Sum . . .	2)200	250	2)250	2)200
Average . .	100	125	125	100
	+25%		−20%	

Now some of the experts tell us that provided we include a sufficient number of articles in our index-number, the possibility of this kind of absurd result need not seriously disturb us: for the average movement of the prices of a large number of articles will show us correctly the direction of the movement of the general price level, and will even show us its magnitude with as much accuracy as we want for practical purposes. It is on this assumption that one of the best-known of English index-numbers is based, that of Mr. Sauerbeck (continued by the *Statist*), which goes back to 1846, takes as its base the average of the years 1867–77, and comprises thirty-seven articles. And if this does not satisfy us, we can give any specially important article extra weight in our result; either by putting in two or three extra varieties of it (as Sauerbeck, for instance, does with wheat), or by multiplying the figures which represent its price by some factor which seems to us to express its relative importance before adding them in to the totals from which we derive our averages.

But other experts tell us—and they are able to support their contention with striking examples—that this is too optimistic a view, and that such a simple index-number may lead us seriously wrong, especially if there have been great changes in prices and other conditions between the two years which are being compared. It is of interest therefore to try to discover the cause of the absurd result which we reached just now, and to see whether it can be obviated.

A little reflection will show that the reason why we reached divergent results according to the year which we took as our base was that we were really comparing different things in the two cases. In the first case we were following the fortunes of a combination of things consisting of the amount of bread which could be bought for 100 units of money in 1900 + the amount of beer which could be bought for 100 units of money in 1900. In the second case we were following the fortunes of a combination consisting of the amount of bread which could be bought for 100 units of money in 1910 + the amount of beer which could be bought for 100 units of money in 1910.

Let us make one more supposition in order to get a definite example. Suppose that in 1900 a loaf of bread and a pint of beer each cost 10 cents; and the combination of the two therefore cost 20 cents. Then in 1910 a loaf of bread cost 20 cents and a pint of beer cost 5 cents, and the combination of the two cost 25 cents: that is to say, the price of this particular combination—1 loaf + 1 pint—had risen 25 per cent. But now let us follow the fortunes of the price of the combination which could be obtained by spending 10 cents on each of the two

articles, not in 1900 but in 1910: this combination is clearly ½ loaf of bread + 2 pints of beer. In 1900 this combination cost 25 cents whereas in 1910 it only cost 20 cents; that is to say, the price of this particular combination fell in the period by 20 per cent. Both our measures of the general price change are accurate, but each of them is accurate only for one particular combination of the articles included. The combination in our first example is that which could be obtained by spending an equal sum—whether a cent or a dollar makes no difference whatever—on each of the articles in the first of the two years compared; the combination in our second example is that which could be obtained by spending an equal sum on each of the articles in the second year. Both these combinations are clearly quite arbitrary.

§ 4. *Provisional Solution.* Let us see then if we can find a combination which is not arbitrary. An obvious suggestion is that we should take the combination which is actually the subject of exchange in the year which we select as base. For instance, if we are making an index-number to throw light on changes in the cost of living for the working classes, we can follow the fortunes of a combination consisting of so much of each of the articles in question as was actually consumed by the normal working-class family in our base year. This —or something like it—is what is actually done by the index-number which attracts most attention from the British public at the present moment—the so-called Ministry of Labor index-number of the cost of living (we shall see in a moment that the popular name for it

is not accurate), which has been the basis for the sliding scale of railway wages. If it is said that that number has risen by 150 per cent since July, 1914, what is meant is that the average working-class family would have to pay 150 per cent more now than in July, 1914, for the collection of articles which it is presumed to have been in the habit of consuming in July, 1914.

Have we then obtained a satisfactory measure of changes in general prices? Again, alas! the answer is No. So long as there have not been violent changes between the two dates compared, the measure may be fairly satisfactory; but if there have, it is not. For people will probably have increased their consumption of those things which have fallen most, or risen least, in price: and they will probably have cut down their consumption of those things which have fallen least, or risen most, in price. And there may be—in war-time there have been—other causes of disturbance to consumption besides changes in relative prices. It may even be that old articles have vanished from the market altogether, and new articles been introduced. A generation which knows not butter may have supplanted a generation which knew not margarine. In such circumstances it becomes merely of archæological interest to know what has happened to the price of the combination consumed in the base year: for the combination consumed in the later years is completely different. It is for this reason that it is inaccurate to speak of the Ministry of Labor figure mentioned above as a "cost of living" index, and that people often vaguely feel that there is something unsatisfactory about it. That figure does not mean that (for instance)

it actually cost the working-class family 150 per cent more to obtain food, clothing and so forth in June, 1920, than it did in July, 1914, but that it *would have cost* it 150 per cent more in June, 1920, to obtain the exact collection of things customarily bought in July, 1914, a collection which it would not have been physically possible for the family to buy in June, 1920, (for instance as regards sugar,) even if it had wished to. Just at present there is a tendency in economic matters to attribute a peculiar sanctity to the year 1914; all sorts of people who were very discontented at the time tend to look back to it now as having been in some sense the "normal" or standard year for all time: and so long as this sentiment is general there is something to be said for following with interest the changes in price of combinations of things consumed in 1914. But the time will come when this conception will be obsolete: by about 1950, for instance, it may be scarcely more interesting to know the price of the combination of things consumed by the working-class family in 1914 than to know what the price would be in England of the combination of things habitually consumed by Chinamen.

One rough way of meeting the difficulty would be to take the percentage price change of the combination consumed at the first date, and the percentage price change of the combination consumed at the second date, and to strike an average between them; and to treat this average as a measure of the change in general prices. And if we use this method to compare the price level of each year not directly with some distant year but with the year immediately preceding it, we shall

get a series of figures which would afford a fairly satisfactory index of the movements of the value of money.[1] But there are all sorts of other mathematical devices for securing the same end, into which we need not enter. The chief point is to understand the essential difficulty involved, and not to expect any index-number to be completely water-tight and truthful.

It is worth pointing out that an exactly similar difficulty is met in attempting to compare the value of money in different *places*. For instance, a Board of Trade inquiry into the relative cost of living in England and Germany some years before the war showed that the combination of things ordinarily consumed by an English workman cost about 20 per cent more in Germany than in England, while the combination of things ordinarily consumed by a German workman only cost about 10 per cent more. And an attempt to compare the value of money in two countries with widely different civilizations—say England and the Cannibal Islands—would be practically meaningless: for the combination of things to be taken into account would be completely different, including for each country things—such as motor-scooters perhaps and missionaries—which nobody in the other country either could buy, or would buy if they could.

The conclusion then is that neither in practice nor even in theory is it possible to measure accurately changes in the value of money. Nevertheless there is

[1] For instance, we might find by this method that the price-level of 1921 was 20 per cent above that of 1920, and the price-level of 1922, 25 per cent above that of 1921: and we could then say that the price-level of 1922 was 50 per cent above that of 1920.

120
30
150

no doubt that the value of money does change, and, if sufficient care is taken, measures accurate enough for practical purposes can be found and used. In the rest of this book phrases such as "the value of money" and "the general level of prices" will be freely used, without further allusion to the ambiguities involved.

II. How the Value of Money is Determined

§ 5. *Resemblances Between Money and other Things.* We are now in a position to approach a question which has been the subject of much fierce controversy—the question of the *forces* by which the value of money is *really determined*, as distinct from the question of the *devices* by which it can be *measured*. Once more we can keep straight if we start by remembering that money is only one of many economic things. Its value therefore is primarily determined by exactly the same two factors as determine the value of any other thing, namely the conditions of demand for it, and the quantity of it available. And with money, as with other things, the conditions of demand for it depend partly on the taste and habits of the community which we are studying, that is on how far that community is accustomed to the use of money and finds it indispensable for the conduct of business. But given the habits of the community in this respect, the conditions of demand for money consist in the total volume of business transactions of all kinds which have to be performed within a given time with the aid of money. The volume of business transactions to be performed may increase for either of two reasons: either because the general flow of goods and services which have to be distributed

among the community increases, or because some of these goods and services change hands more frequently in a given lapse of time. This latter consideration is of importance chiefly in regard to certain lasting things such as houses or securities or staple materials which are the subject of speculative purchase and re-sale; speaking broadly, the other cause of an increase in the volume of transactions—an increase in the actual flow of goods and services to be disposed of—is of much greater importance. In any case, an increase in the volume of transactions means an increase in the demand for money. And similarly a decrease in the volume of transactions means a decrease in the demand for money.

But *given the conditions of demand for money*, its value depends on the quantity of it available. If fewer units were available, there would be more work for each of them to do: each of them would have to exchange for a larger volume of other things; its value, as we have defined it, would be greater than it actually is. If more units of money were available, each of them would have to exchange for a smaller volume of things—its value would be less than it actually is. If we pursue our analysis to the bitter end, we shall be forced to admit that if even *one* unit of money were withdrawn from the quantity actually available, there would be some slight tendency for more work to fall upon the others, and for their value to rise. The value of each unit of money is what it is because there are just so many units, and neither more nor less, available: and the value of *every* unit of money is equal to the value of *any* unit among them which we can conceive of as being suddenly abolished.

Readers of the first volume of this series will readily see, therefore, that in this also the value of money resembles that of other things—that *given the conditions of demand*, it depends on the total number of units available, and is equal to the value of any such unit that we choose to conceive of as being suddenly abstracted.

§ 6. *Differences between Money and other Things.* We may now pass on to consider two respects in which the value of money is determined differently from the value of other things. The first respect is very important indeed. The value of bread is not only an expression of the bundle of things in general which can be obtained in exchange for a loaf of bread: it is also in some degree a measure of the usefulness, or enjoyment-yielding power, of a loaf of bread. If one of the available loaves were destroyed, there would be a corresponding loss in real economic welfare. Can we say the same about money?

From one point of view we can. If one unit of money were suddenly abolished, the possessor of the particular unit selected for abolition would clearly be the poorer. Nobody who has ever lost a ten cent piece through a crack in the floor will dispute this. But it is by no means obvious that the world as a whole would be impoverished in the same degree: for the command over real things surrendered by the loser of the ten cent piece is not abolished, but passes automatically to the rest of the community, whose ten cent pieces will now buy more. If indeed there were a large and simultaneous loss or destruction of money, society might easily find itself hampered in the conduct of its business, and

the consequent check to exchange and production might lead to a serious decrease in its real economic welfare. This consideration must be taken into account in forming a practical judgment on schemes, such as we shall have to discuss later, for effecting wholesale reductions in the quantity of money. But the central fact remains—that the value of money is (within limits) a measure of the usefulness of any one unit of money to its possessor, but not to society as a whole: while the value of bread is also a measure (within limits) of the *social* usefulness of any one loaf of bread.

It is worth noting that money is not absolutely peculiar in this respect.[1] If Jones' gramophone were unfortunately damaged, the gain of Jones' neighbors must be weighed up, in estimating the total effects on the world's welfare, against Jones' loss. If Lady X's diamond tiara were unluckily mislaid, the unholy glee of Lady Y and Mrs. Z. must be set against the chagrin of Lady X. In the first case this peculiar circumstance arises from the social perniciousness of the article in question, in the second from its enviable rarity. In the case of money it arises from the fact that nobody generally speaking wants it except for the sake of the control which it gives over other things. But the case of money being by far the most important, it is not unreasonable to set this down as a respect—and an important one—in which money is peculiar as regards the determination of its value.

The second respect in which money is peculiar as regards the determination of its value is closely allied

[1] Cf. Cunynghame, *Economic Journal*, March, 1892, and Pigou, *Economic Journal*, March, 1903.

to the first: and while it is less important, it has attracted more attention. *Given the conditions of demand for money*, the relation between its value and the quantity of it available is of this peculiar kind; the larger the number of units available, the smaller, in exactly the same proportion, the value of each unit. A moment's reflection will carry conviction that this must be true. If there is a certain volume of things to be exchanged, and if each of them is to change hands a certain number of times: then, if the quantity of money available were halved, there would be exactly twice as much work for each unit of money to do, each unit would have to pass in exchange for twice as great a volume of things in general. If the quantity of money available were doubled, there would be exactly half as much work for each unit to do—each unit would have to pass in exchange for half as great a volume of things in general. To use the correct arithmetical term, given the conditions of demand for money, its value *varies inversely* as the quantity available, or in other words the "general level of prices" *varies directly* as the quantity of money available.

This tedious truism has sometimes, under the name of the "quantity theory of money," been on the one hand elevated to the rank of a great discovery, and on the other hand denounced as a pernicious falsehood. It is important, therefore, if we wish to avoid being beguiled prematurely into controversy, to be quite clear as to what it does *not* assert. In the first place it does not assert that every change in the quantity of money available will be accompanied by an exactly proportionate—or even by any—change in the opposite

direction in the value of money. It is clearly conceivable that the change in the quantity of money available might itself produce a change in the conditions of demand for money (that is, either in the extent to which the community insists on using money, or in the volume of things to be exchanged, or in the frequency with which they change hands), which would make the assumption on which our theorem rests, "given the conditions of demand for money," no longer applicable. Whether there is reason to think that this is true or important is a matter which will need discussion later.

Secondly, our theorem does not assert that every change in the value of money is associated with a change in the quantity available: it may be associated with a change in the conditions of demand—it should be unnecessary to repeat again in what those conditions consist.

Thirdly, our theorem does not assert that any change in the value of money which *is* associated with a charge in the quantity available is associated with it as effect with cause. The conception of cause and effect, as anyone who has dabbled in physics or philosophy will not need to be reminded, is not an easy one: and we had better beware from the start of approaching it too dogmatically.

Fourthly, even in so far as the conception of cause and effect is an appropriate one, our theorem does not profess to throw any light on *how* the chain of causation operates. This is the chief reason for the distrust of the "quantity theory" felt by the plain man, who desires, and rightly, to know *by what means* the quantity of money affects the price level, if it does affect it. Later

on in this book we shall do our best to satisfy him with an answer: but the answer is not single or simple, and depends on the nature of the particular money-system with which we are concerned, and the *kinds* of money of which it is composed, a subject to which we must therefore shortly turn our attention, if we are to make any progress.

Thus shorn of anything which might lend itself to impressive demonstration or exciting debate, what interest does this bare stump of a quantity theory possess for us? What justification was there for introducing it here at all? The answer must be, first, that long generations of controversy leave the modern writer little choice in the matter: secondly, that the theorem does state a curious truth about the determination of the value of money, which constitutes a real ground of distinction between money and every other thing: and thirdly, that this truth is one which it is well to bear firmly in mind when examining the complex relations between the quantity of money and the level of prices which prevail in actual life. No longer either a triumphant *Credo* or a pestilent heresy, the "quantity theory of money" remains as a dowdy but serviceable platitude.

§ 7. *Money in Existence and Money Available.* Our mutilation of the "quantity theory of money," however, is not even yet completed. The phrase "the quantity of money available," which has been used throughout the preceding discussion, needs a little further explanation. The quantity of money *available*, in the sense in which that word is here used, is not the same thing as

the quantity of money *in existence:* and that for two reasons.

First, the relation between the quantity of money and its value, like all other relations, must be taken to apply relatively to some period of time—let us say a week. But during that week some of the pieces of money in existence will not be available for work; they may be holiday-making in my pocket, or taking a prolonged rest-cure in the bank, or even being "cooled a long age in the deep-delved earth." On the other hand, some will be available twice or thrice or many times, and will be used in one short week to discharge a number of quite separate transactions. Some pieces of money are very agile, like pieces of scandal, and skip easily from one person to another: others are like an old lady buying a railway ticket—one would think that they had lost the power of locomotion altogether. This truth is often expressed by saying that we must take account not only of the total quantity of money, but also of its average "velocity of circulation." And though we have found it convenient to approach it by a different route, it is precisely analogous to the truth that in estimating the demand for money we must take into account not only the volume of goods to be disposed of within a given time, but also the frequency with which each of them changes hands.

Here is a little story[1] to illustrate this conception of the velocity of circulation of money. On Derby-day two men, Bob and Joe, invested in a barrel of beer, and set off to Epsom with the intention of selling it retail on the race-course at sixpence a pint, the proceeds to be

[1] Adapted from Edgeworth, *Economic Journal*, 1919, p. 329.

shared equally between them. On the way Bob, who had one threepenny-bit left in the world, began to feel a great thirst, and drank a pint of beer, paying Joe threepence as his share of the market price. A little later Joe yielded to the same desire, and drank a pint of beer, returning the threepence to Bob. The day was hot, and before long Bob was thirsty again, and so, a little later, was Joe. When they arrived at Epsom, the threepence was back in Bob's pocket, and each had discharged in full his debts to the other: but the beer was all gone. One single threepenny bit had performed a volume of transactions which would have required many shillings if the beer had been sold to the public in accordance with the original intention.

The magnitude of this velocity of circulation of money depends upon the habits of the community in various respects. In particular, the less frequent the intervals at which people discharge their obligations, the more money will be kept idling about at any one time, and the lower therefore will be the velocity of circulation. It will be lower for instance as a rule if people are paid annual salaries than if they are paid weekly wages, and if they run up accounts than if they pay for their purchases on the nail.

The second respect in which the quantity of money "available" differs from the quantity of money in existence is less generally understood, but is nevertheless of some importance. The market price of wheat or cotton is influenced not only by the quantity of wheat or cotton in existence at the moment, but also in greater or less degree by people's estimates of the quantity likely to be called into existence in the near future. The

expectation of a bumper cotton crop tends to lower the price of cotton, and reports of exceptional activity on the part of the boll-weevil to raise it. Exactly the same principles operate with regard to the value of money. The reader must wait in patience for illustrations of the actual working of this principle, as of the others enunciated in this chapter. Meanwhile it must be put on record that the phrase "quantity of money available" is to be so interpreted as to allow for the influence of expected changes in the near future in the quantity of money in existence.

§ 8. *Two Problems for Solution.* We have seen that money resembles other things in that its value is determined primarily by two factors—the conditions of demand for it and the quantity of it available. But in the case of most ordinary things that is not the end of the story. We can take a further step and say that the quantity of them available depends in the long run on the ease or difficulty of producing them, and that their value has some tendency to equal, in some sense, their cost of production. The question now arises, can we take this further step with money? Are there any forces at work tending to make the quantity of money available dependent on the difficulty of producing it, and its value therefore equal to its cost of production? If not, by what other forces is a limit set to the quantity of money available?

In our general discussion of this matter we shall not bother further, except at one point (p. 49), about the distinctions drawn in the last section. Having taken due note of them we can feel ourselves free to ask simply

"What determines the quantity of money in existence in any given country?" But to this question, as to the question of the means (if any) by which the quantity of money affects the level of prices, there is no simple or universal answer. The answer depends upon the *kind* of money and money-system with which we are dealing. To a consideration, therefore, of the different kinds of money which exist we must now go forward.

CHAPTER III

THE QUANTITY OF MONEY

"It's long," said the Knight, "but it's very, *very* beautiful." *Through the Looking-glass.*

I. The Kinds of Money

§ 1. *Bank Money and Common Money: Legal Tender, Optional and Subsidiary Money.* The last chapter left us with two important riddles which we could not solve without knowing something more about the various kinds of money which exist. Now there have been and still are in the world many different kinds of money and money-systems; and to give an exhaustive account of all of them would far surpass the limits of this book. But if we take some familiar piece of money—say a £1 British Treasury note—if we treat it like a botanical specimen and ask it various questions, the answers to which may help to distinguish it from other kinds of money, then we may be enabled to build up some sort of rough classification of money. And we can then go on to get an idea of the ways in which the money-systems of the world are built up out of these different kinds of money.

The first question we shall ask our Bradbury note is this: "Will you be accepted without question by anybody to whom I offer you in payment of a debt?" And our note will answer without hesitation, "Provided

it is somebody within this country, yes. That is where I score over that check which you sent to your tailor this morning. He will only accept it because he knows —or thinks he knows—that you have a balance at your bank on which to draw; and because he has himself facilities for passing it into his own bank. But if you were a farmer, it would be little use your trying to pay your laborers with checks, for they probably would not know what to do with them. And when you go to Little Puddlecombe for your holiday next month, I should be a little shy, if I were you, about insisting at once on paying all the local tradesmen by check, until they get to know you a bit; for they may not be altogether favorably impressed. You will do better to take me and some of my brothers with you: everybody will take us without question in payment of a debt, and be thankful to get us."

Our Bradbury then belongs to the order of *common money*, or money which is universally acceptable within a given political area, and not to the order of *bank money*, which requires special knowledge, and the making of special arrangements, on the part of the recipient.

Our next question will be this: "Dear Mr. Bradbury, do not take offence, or misunderstand me. I do not doubt for a moment that *in fact* everybody will accept you: but tell me this, are they *bound* to accept you, or is it open to them to decline to do so?" And our Bradbury will bridle a little as he replies, "Of course they are bound to accept me. The law says that anywhere within these islands I and my brothers are full legal tender for the discharge of a debt up to any amount.

That is what I cannot stand about those silver and copper coins which I am always knocking up against. They give themselves great airs as though they were legal tender people too; and so they are up to a point, but only up to a point. When you offered your tobacconist a shilling and a penny for that packet of cigarettes, he had to accept them: but if you had offered him thirteen pennies he would have been entitled to refuse them. And if you had sent him forty-one separate shillings in payment of that bill of £2 1s. he would have had the right to refuse *them*. But things so seldom happen that way that the shillings and the pennies presume on your forgetting all about it, and get terribly above themselves.

"When I was travelling with an officer in the Middle East a year or two ago, I met a very interesting lady called a Maria Theresa dollar. She said that she had been travelling in those parts for nearly two hundred years without any Government passport at all, but that everybody seemed pleased to see her, because she was made of such good silver, and looked so kind and homely.[1] She said she could not see any point in being legal tender: she had always got on very well without it, and she seemed to regard it rather as a mark of ill-breeding and of not being quite sure of oneself. I believe I have some cousins in America too—the notes of the National Banks—who go about without any help from the Government, and seem to get on all right. But personally I believe in being legal tender. These are queer times, and people sometimes get funny ideas into their heads; and if anything *should* happen—

[1] See J. M. Keynes, *Economic Journal*, 1914, p. 260.

well, I've got my orders, and that clears *me*, as we used to say in the Army."

Our Bradbury, then, belongs to the sub-order *full legal tender money*, or, as we call it for short, *legal tender*—that is, money which is certified by law to be valid in final discharge of a debt for any amount from one fellow-citizen to another; and not to the sub-order *subsidiary money*, which is only so certified for debts up to a limited small amount, or to the sub-order *optional money*, which is not so certified at all.

§ 2. *Convertible and Standard Money.* Let us return to our interrogation. "I quite understand now, Mr. Bradbury, that my tobacconist would be bound to accept you from me, and that I was bound to accept you from my employer. But should I have been bound to accept you *who ever* offered you to me? I seem to have heard something—forgive me if I am wrong—about there being somebody who is *not* entitled to offer you in final discharge of an obligation, and who would be bound, if I took you to him, to give me some other kind of money instead. Do not suppose for a moment that I mean to try, but tell me, pray, is not this so?" And hear our Bradbury will show his first signs of embarrassment. "Well," he will say, "I hardly know what to reply. They do say that if you took me to the Bank of England, the man behind the counter would be obliged to give you a gaudy gold sovereign instead of me. But nobody has ever tried it on with me but once. He was a fellow who lived in a cellar down by the Thames, and he had a great fire burning all day, and lots of funny pots and pans and things: and he took

me and a lot of my brothers to the Bank of England, and asked for golden sovereigns: and—but perhaps I had better not tell you the end of the story. Only I think I shouldn't bother to try, if I were you."

"My dear fellow, I have no intention of trying. But I am a scientific student, and I want the truth. Am I entitled to convert you if I choose into some other kind of money, or are you, as one might say, the last word?"

"Oh dear," our poor note will answer, "what awkward questions you do ask! If you want the literal and legal truth, you are entitled to convert me: and you can classify me with my big brother, the Bank of England £5 note, who is legal tender like myself, but whom the Bank has always been obliged, and is still, to convert into some other kind of money on demand. But if you want what some people call the higher truth, perhaps you would not be far wrong in setting me down, along with the sovereign, as the last word. Before I was born, the sovereign was the only last word in this country: and in most other important countries, as I have been told, the last word was a golden coin of the same kind: though in some, I believe, there were big clumsy lumps of silver—five-franc pieces and silver dollars and such-like—which were equally the last word, because the central banks and treasuries were entitled to go on dishing them out even if people wanted gold instead. But nowadays pieces of paper are the last word nearly everywhere: people have to take them from their Governments and central banks as well as from each other. Of course I'm a bit different from those French and German and Russian bits of paper, because, as I told you just now, a gentleman once took

me to the Bank of England to change me for a sovereign. . . . Poor fellow! how pleased his wife will be to see him when he comes home after all those years. . . ."

Our Bradbury note then belongs nominally to the family *convertible legal tender*, or money which one ordinary citizen must accept as final payment from another, but in exchange for which some central institution is bound to give some other kind of money if requested. But for practical purposes its affinities are rather with *standard money*, or money in which even such a central institution is entitled to make a final and ultimate discharge of its obligations, including the obligation to convert convertible money. It should be noted that convertible legal tender is not the only sort of convertible money: bank money, for instance, and some kinds of optional money, carry the right to exchange them, on application to the proper quarter, for some other kind of money.

§ 3. *Token and Full-bodied Money.* One more question, and our catechism is ended. "You are a very fine-looking fellow, Mr. Bradbury, and I do not want to say anything disparaging; but are you not, perhaps, a little flimsy and anæmic? If you were to give up working as money, and take up some other profession, do you think you could earn a living? Would people think as much of you as they do? Would you, to put it baldly, fetch as much?" And here our note will get really angry at last. "How stupid and old-fashioned you are!" he will reply. "You are contrasting me, I suppose, with that sovereign you are keeping—oh yes, I have

been in your cash-box, and I know—and which would still be useful, if the worst came to the worst, for stopping teeth. No, of course I should be no good except as money: why should I be? I should be no more use at house decoration or dentistry or other honest work than—if you will pardon my saying so—you would yourself. And let me tell you this, it's not only we paper standard pieces of whom that's true. There is my friend the rupee, who is the standard coin of India: he looks very smart and solid, and takes a lot of people in; but if you took his lettering off him, his carcass would come tumbling down in value. For it isn't his flesh that gives him the value he has got, it's the writing on him.

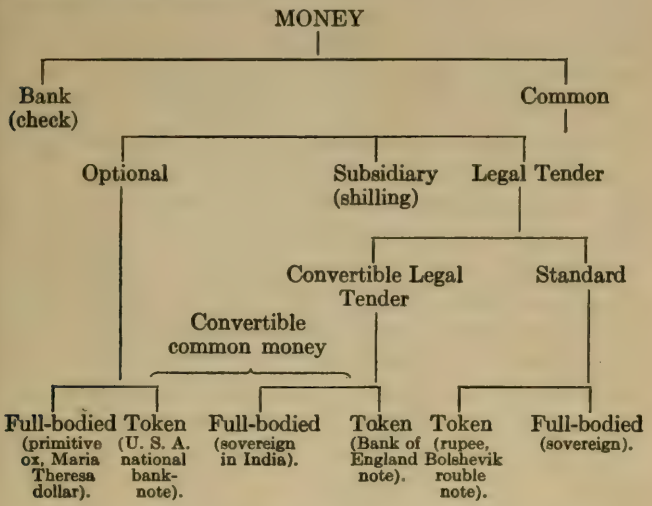
"And let me tell you this too, if a great many of those haughty gold coins were to lose their money job simultaneously, they wouldn't be worth as much as they flatter themselves they would, not by a long way. They think men run after them so because they're strong and handsome, and so it was, when men were savages. But the chief reason men run after them now is because they're *money*. If one of them gives up the money profession while the rest stick to it, he's worth what he was before, because he can always get a money job again. But if they all got the sack at once, goodness knows where they'ld be: for this dentistry yarn has worn a bit thin—there aren't all that number of rickety teeth in the world.

"You'll be saying next that the cattle of the ancient Greeks and the tobacco of the Red Indians and the knives of the Chinese were better money than I am, because you could use them to eat or to smoke or to kill people with. You might as well say that Harry Lauder

would make a better Prime Minister than Lloyd George, because he could make a living by singing comic songs if he got turned out of office. I admit that as things are I don't have such a good time if I go abroad as the sovereigns do. Foreigners don't seem to like the look of me at all, as a rule; but they are an ignorant set of folk, and I don't pay much attention to them. No, I'm not ashamed of being only token money: to be legal tender and to be treated as standard is quite good enough for me."

Our Bradbury, then, belongs to the race of *token money*, or money whose value is materially greater than the value of the stuff of which it is composed, and not to the race of what we will call *full-bodied* money, whose value is not materially greater than that of its component stuff. This distinction cuts across the rest of our classification. All bank money and all subsidiary money is normally token money: but of optional money some (like the United States national bank-notes) is token, and some (like the big silver coins which circulate in the East) is full-bodied. Most convertible legal tender is token money, such as the bank-notes of all important countries before the war and of the Bank of England to-day: but the sovereign *in India* is full-bodied convertible legal tender, not standard money, for the Government of India is obliged to give ten rupees in exchange for it on demand. For some purposes it is convenient to group together convertible legal tender (such as the Bank of England note) and token optional money (such as the United States national bank-note) under the label of "convertible common money."

These results may be tabulated for convenience of reference as follows:—



This classification, it will be observed, makes strange bedfellows. The rupee turns out to be only a silver note, or the Bolshevik rouble note a paper coin, whichever way we like to put it. The Maria Theresa dollar swallows her pride, and shares a stall with the primitive ox. Nevertheless this seems to be the classification which best satisfies the dictates of clear thinking.

II. The Quantity of Bank Money

§ 4. *The Relation of Checks to Deposits.* Modern monetary systems are built up by combining these different kinds of money in accordance with various rules of custom and law. It would be impossible, as the reader

has already been warned, to discuss all these rules in detail within the limits of this little book: but by keeping steadfastly on the trail of one of our unsolved questions, the question of how the quantity of money in a country is determined, we may learn a good deal about them. And we may simplify our task further by confining our attention at present to what we may rather vaguely call Western countries, and define rather more precisely as countries with independent money-systems. That is to say, we shall not be concerned at present with countries, such as pre-war India, whose money-system is professedly and definitely regulated with reference to that of some other country: nor with countries where money created abroad forms a large and important element in the money-system, as the Indian rupee does, for instance, in East Africa, or the Maria Theresa dollar in the Arab world, or the Mexican dollar in the Far East. With two of the kinds of money exhibited in our table, therefore, we shall not at present be bothered, namely full-bodied convertible legal tender (the sovereign in India), and full-bodied optional money (the Maria Theresa dollar).

The first question we shall ask is, how is the quantity of bank money in a Western country determined? To answer this, we must inquire rather closely how bank money is created. Now clearly bank money is not created directly by the banks: it is created directly by the people with check-books, who might appear to the uninitiated observer to draw checks whenever they please for whatever sums they please—to create bank money at their own sweet will. But of course everybody knows really that this is not so, and that the

check-book holder can only draw checks up to a certain amount agreed upon between him and his banker, and that as a matter of fact he generally keeps well within this amount. This total amount up to which he has the right to draw checks is sometimes called his "deposit" at the bank; though it is perhaps as well to issue a warning that this is not quite the technical sense in which the banker uses the word. When a check for $50 passes from me to my butcher, and is paid in by him to the bank, my deposit at the bank is reduced by $50, and his is increased by the same amount: though $50 of money has become available, the total volume of deposits at the bank is unaffected. The relation between the total volume of deposits at any period and the total volume of checks which passes during that period is thus really a particular instance of the relation between the quantity of money *in existence* and the quantity of money *available* (see p. 35). If we speak of the checks and not of the deposits as bank money it is because unless and until they are embodied in checks the deposits do not exist in a form which it is possible to describe as money without an undue appearance of paradox. But in essence a deposit which is not being drawn against is idling bank money, just as the dollar in my pocket is idling common money: and the passage of a check is a kind of transitory manifestation of bank money, as the passage of an United States note is a transitory manifestation of common money.

We may think of the deposit as a kind of generating station or mother-ship for checks: and though it is a bad and foolish practice as a rule to create new names for common things, it may help us to bear this relation

in mind, and also to avoid some cumbrousness of phrasing, if we call a person's deposit his *checking account*, because it is both a breeding-ground and a homing-place for checks, as a rookery is for rooks. We shall speak then of an individual's checking account, but of a bank's deposits. The total of individual checking accounts is the same thing as the total of bank deposits.

The relation between checking accounts and checks depends on the kind of causes mentioned in Ch. II, § 7. It is not, of course, absolutely fixed and constant: it varies as between individuals, and it varies for the same individual between different times. Sometimes I work my check book very hard, and sometimes it is almost idle: and often when I am working it hardest there is least behind it.

These variations in the velocity of circulation of bank deposits sometimes form, as we shall see later, an important element in changes in the total supply of available money: but given this velocity, the volume of checks clearly depends on the volume of deposits. Now the exact method by which bankers regulate the volume of their deposits, by varying the amount of the *loans* which they make to their customers, is a difficult and important subject which will require a whole chapter (Ch. IV) to itself: but without pursuing it further at present we can quite well ask on what grounds the bankers arrive at their decisions about the total volume of deposits to be created.

§ 5. *The Relation of Deposits to Reserves of Common Money.* Let us inquire, then, by what rules the volume of deposits is regulated in various countries. In the

United Kingdom it is not regulated at all, so far as the law is concerned; the matter is left to the unfettered discretion of the bankers, that is, we may almost say, of those who control the policy of the five giant stock banks.[1] But it is generally believed that the bankers regulate the volume of deposits in accordance with a customary rule of their own, which consists in keeping a certain rough proportion between their deposits and what are called their "cash reserves": and as for the magnitude of this proportion, the figure of 9 to 1 is one which it is now convenient to keep in the head, though it would be wrong to speak as though it were either uniform for all banks or rigidly fixed for any individual bank. These "cash reserves" of the banks—in future we will call them "reserves" for short—consist partly of common money in their own possession, partly of a checking account at the Bank of England.[2] These checking accounts are lumped with its other deposits by the Bank of England, which also appears to aim at keeping a certain rough proportion between its total deposits and its reserves, though it would be difficult nowadays to say what that proportion is supposed to be; before the war it was rather more than 2 to 1. The

[1] Barclay's; Lloyd's; London County Westminster and Parr's; London Joint City and Midland; National Provincial and Union.

[2] Since January, 1921, these checking accounts are no longer described as "cash" but as "balances" at the Bank of England: but the change is only a verbal one, since their amount is not stated separately from "cash." If "balances with and checks in course of collection on other banks in the United Kingdom" are allowed to count as "reserves," a figure of 7 to 1 for the proportion of deposits to reserves becomes nearer the mark than that given in the text. For the influence of Treasury Bills on these figures, see Chap. V, § 4.

reserves of the Bank of England consist entirely of common money. The chief point of this little extra complexity is that it facilitates the transfer of checks between people who bank at different banks. If A who banks at bank X pays a check for £10 to B who banks at bank Y, then bank Y, when it gets the check from B, will present it for payment to bank X: and bank X will meet its obligation by drawing a check for £10 on its checking account at the Bank of England. As a matter of fact the stream of transactions of this nature between the big banks is so large and steady in all directions that the banks are enabled to cancel most of them out by means of an institution called the clearing-house: but the existence of these checking accounts at the Bank of England facilitates the payment of any balance which it may not be possible at the moment to deal with in this way.

A thorough understanding of this process is important, for it will enable us to simplify several subsequent arguments by speaking as though there were only one bank in existence, leaving the reader to introduce for himself the complications required by the existence of several banks squaring up with one another by means of their checking accounts at the Bank of England. At the moment the important point is that the banks have got into the habit of treating these checking accounts as part of their reserves. The consequence is that the proportion between the total volume of the checking accounts of the public and the total volume of real reserves of common money held by the banking system is appreciably larger than that proportion between his total deposits and total nominal "reserves" which is the

direct object of the individual banker's concern and calculations. But this does not affect the main upshot, which is that the volume of deposits is ultimately regulated with reference to the volume of the reserves of common money.

If we inquire why this volume of deposits should bear any reference to the volume of common money, the answer is not far to seek. It lies in the familiar fact that bank money is *convertible*. The right to draw a check carries with it the right to *cash* a check, that is to get it changed into common money by the bank which issues the check-book. Of course if part of a checking account is thus removed in the form of common money, the size of the checking account is reduced by a corresponding amount. This right of conversion is used to a certain extent by all holders of check-books to obtain common money for making current payments of moderate amount: and it is used on a very large scale by "capitalists" to obtain common money for the payment of wages. A bank therefore which gives the right to draw checks must be able to lay its hands on enough common money to cash such proportion of those checks as will in fact be presented for conversion. It is not surprising therefore that the banks should regulate their deposits with some reference to the amount of common money in their possession, or within their immediate reach.

§ 6. *The Magnitude of Bank Reserves.* If, however, we ask why the English banks have pitched upon this particular proportion of about 9 to 1, the answer is not so clear. Let us examine for a moment an imaginary banking system, which not only works securely (as ours

does), but also works absolutely uniformly as between one day or week and another (as of course ours does not). There will then be no reason why such a banking system should keep any reserve of common money at all. For the common money which is paid out in exchange for checks does not continue for ever in circulation: it finds its way back to the banks from the traders and shopkeepers to whom it is handed in payment for goods, and who thereupon dump it with the banks for safe-keeping, thus swelling their checking accounts at the banks by a corresponding amount. No conceivable banking system could continue to exist which was always paying out common money and never getting it back again. But provided the inflow and outflow of common money were perfectly uniform, there would be no reason why there should ever be a standing pool of common money in the vaults of the banks. An instantaneous photograph of the banking system might well show us an enormous volume of deposits, and no reserves of common money whatever.

Now of course with any actual system the case is different. Both the needs of the check-book holders to draw common money, and the ability and willingness of the traders and so forth to dump common money, vary according to the day of the week and the season of the year. It would not be surprising, therefore, that an instantaneous photograph of our banking system at any moment should show a little pool of common money in the reservoir of the banks, sufficient to continue to feed the outgoing stream if the incoming stream should temporarily slacken. And it might be supposed that bankers would regulate the size of this pool according

to the variations which experience leads them to expect in the suction which is drawing common money out and the pressure which is pumping it in. This, however, does not seem to be altogether the case. The pool is always considerably larger than would be necessary for that purpose, though in the past, at any rate, its *average* level has probably not always been so large as its level at the particular moments when the banks published their accounts.

Do the bankers then keep the pool large enough to meet any drain that could possibly be made upon it? Obviously they do not. If there were a very great increase in the suction of the check-book holders, or a very great slackening in the pumping zeal of the traders, the pool would not be sufficient. Nothing short of a proportion of 100 per cent between reserve of common money and deposits would suffice to meet all possible eventualities. The practice of bankers is a compromise between keeping the pool which they expect in fact to be large enough, and keeping the only pool which could possibly in all circumstances be large enough. And it seems to be a compromise based rather on habit, and on the necessity of giving depositors confidence in the strength of the bank, than on any nice calculation of what events are reasonably likely and what may be dismissed as "unthinkable."

It has been necessary to discuss this matter in some detail, because it is one about which some confusion prevails—and not only in the mind of the "man in the street." People sometimes tend to speak as though there was some mystic figure of proportion of reserves to deposits—whether the English 1 to 9 or some other—

without attaining which no banking system can become respectable, and on attaining which any banking system becomes unassailable. It is important therefore to remember that in certain conditions a banking system could work successfully without any reserve, and in other conditions could only work successfully with a reserve of 100 per cent.

In continental countries the regulation of the volume of bank money, which has not hitherto been of very great importance, is left as in England to the discretion of the banks: but in the United States, where the predominance of bank money in the money-system is as pronounced as in England, the law has stepped in. By a series of elaborate provisions (dating in their present form from 1913) which we cannot stop to examine in detail, the various elements of the banking system are obliged to keep a certain minimum proportion between their reserves and their deposits. A legal arrangement of this kind is open to the objection that human nature being what it is, the law is sometimes held to encourage what it does not expressly forbid, and a bank may therefore be tempted to keep its proportion of reserves very near the bed-rock legal minimum. Any unexpected demand for common money may then present the bank with the alternative of infringing the law, or declaring itself insolvent while its reserves are still far from exhausted. For clearly if reserves are exactly 20 per cent of deposits, the cashing of a check for a single dollar would reduce both reserves and deposits by 1 dollar, and would therefore reduce the proportion to under 20 per cent: and supposing that to be the legal figure, the law would be broken. If a pro-

portion fixed by custom is arbitrary and misleading, a proportion fixed by law seems at first sight to be positively mischievous. An iron ration which you must not touch even in the throes of starvation is something of a mockery. Against such criticism it may be urged (though not too loudly) that in finance as in war rules are made to be broken on occasion, and that their object is not to insure that certain things shall never be done, but that they shall not be done without good reason. In any case the American law has done its best to forestall criticism by toning down the rigidity of the connection between reserves and deposits by means of various ingenious buffer arrangements. The most striking of these gives the body which exercises supreme control over American banking—the Federal Reserve Board—power to grant absolution from the rules about reserves in case of need and in return for the payment of a tax.

§ 7. *The Relation of Deposits to Common Money outside Bank Reserves.* Whether fixed by law or custom, the relation established in any country between the volume of bank money and the volume of common money kept *inside the banks* is seen to be somewhat arbitrary and artificial. It must not, however, be concluded that the relation which exists between the volume of bank money and the volume of common money circulating *outside the banks* is not, as things are, a natural and necessary one. Any banking system—including the imaginary one which we examined just now, and which had no *pool* of common money—would cease to work if at any time the *flow* of common money into the banks became very small as compared with the volume of

deposits; and for this reason. There exists at any time a certain proportion, depending on the habits and custom of the people, between the volume of payments ordinarily made by check and the volume of payments ordinarily made in common money. The man with a check-book pays his butcher by check, but he pays strangers, or the booking-clerk at the railway station, in common money. This proportion is not of course fixed eternally: for instance, if the working classes took to keeping banking accounts on a large scale and accepting payment of wages by check, the proportion of deposits to common money in circulation might become very much larger. The banks no doubt can exercise a gradual influence upon the habits of the community in this respect: but they cannot entirely control nor speedily change them. So long as these habits remain the same, and so long as the check-book holders have the right of demanding common money from their banks, the proportion between the volume of common money put into circulation and the volume of bank deposits will tend to remain unchanged. Any bank, therefore, whose deposits greatly increased would find the out-flowing stream of common money greatly exceeding the inflowing stream: for the public would be anxious to get hold of more common money to match the increase in bank money, and would be loath to part with what they had got. In such circumstances our imaginary banking system would break down like any other, indeed sooner than any other: for the assumption upon which it rests—the assumption of an equality between the inflowing and outflowing streams of common money—would be forthwith upset.

The relation between bank money and common money therefore depends only in part on the more or less arbitrary and conventional decisions of bankers regarding their reserves: it depends also partly on something more fundamental though not unalterable—the business habits and preferences of the community.

One more point. We have throughout spoken of the relations between bank money and *common* money. But wherever legal rights and obligations are spoken of, the reader can make a gain in accuracy by substituting "legal tender" for "common money." As regards actual practice, the pools and streams of common money consist in Western countries partly of subsidiary money and (in some cases) of token optional money. But the quantity of subsidiary money is everywhere regulated by Governments, on the basis of their experience of the habits of their peoples, in some relation to the quantity of legal tender. And the quantity of token optional money (where such exists) is also, as we shall see in a moment, regulated with reference to the quantity of legal tender. What we have therefore in effect discovered is that the volume of bank money is regulated with reference to the volume of legal tender.

III. The Quantity of Common Money

§ 8. *The Relation of Convertible Common Money to Standard Money.* Our next task is to inquire how in a Western country the quantity of convertible common money (see p. 46) is determined. The answer is that it is determined with reference to the volume of *standard* money, in the same kind of way as the volume of bank money is determined with reference to the volume of

common money; namely by two factors—the habits of the people, and the policy or obligations of Governments and banks. As regards the first factor, it may be laid down that it is only when economic conditions are backward or political conditions unstable that a people will insist on using its standard money for ordinary purposes. In England before the war it used to be asserted that the preference of the people for using standard money—that is, golden sovereigns—for ordinary transactions was ineradicable: but as the smallest piece of non-standard legal tender available for their use was the £5 Bank of England note, which was too large to be convenient for most of us, it was difficult to test the validity of this assertion. Nowadays it seems to be generally agreed that even if the Bradbury note became freely and indubitably convertible, there would be no frantic rush to convert it for the purpose of making ordinary payments within the country. The mere assurance of convertibility, it is thought, would have the same kind of soothing effect as church bells in the distance, and be equally unprovocative of action.

As regards the second factor, the intervention of the law has been far more general than in the case of bank money. In England the "uncovered issue" of Bank of England notes—the excess, that is, of the total issue over the Bank's reserves of actual or potential standard money (gold coin and bullion)—is limited by law to a figure which is now about £18½ million. Since December, 1919, the "uncovered issue" of Bradburys has been regulated, not indeed by law but by Treasury ordinance, on the same principle, and is now fixed at about £317 m.; but the covering is allowed to consist

partly of Bank of England notes. In pre-war France not the uncovered but the *total* issue of convertible legal tender (Bank of France notes) was limited by law. In pre-war Germany the uncovered issue of convertible legal tender (Reichsbank notes) was limited by law as in England, though the limit was raised at certain times of the year and might be passed at any time on payment of a tax. The *proportion* of the total issue to the reserves held against it was also limited by law to 3 to 1; though the reserves were not quite all composed of standard money or even legal tender. In the United States, the position is very complicated. Against one kind of convertible legal tender (gold and silver certificates) a reserve of 100 per cent in standard money must be kept: of another kind (United States notes), the total issue is limited. Against one kind of token optional money (national bank-notes and their successors under the Act of 1913) a reserve of 5 per cent in legal tender must be kept, against another kind (Federal Reserve notes), a reserve of 40 per cent in gold. But both these kinds of optional money are also limited by provisions of quite a different kind; the first by a rule that for every dollar's worth of notes created a dollar's worth of United States Government bonds must be held by the bank which creates it; the second by a somewhat similar provision in which the pledges of business men take the place of those of the Government, and also by the fact that the creation of this kind of money requires the consent of the Federal Reserve Board (p. 57).

It will be seen that the volume of convertible common money has not always been regulated with direct reference to the quantity of standard money. Never-

theless the fact that the former *is* convertible insures everywhere that some relation is kept between the two things. The particular practice of bankers and Governments may, as in the analogous case of bank money, be arbitrary and artificial; and the legal determination of proportional reserves, where it prevails, contains the same elements of danger. Nevertheless most of the systems adopted have achieved successfully on the whole their immediate purpose of keeping the convertible common money convertible: though of course many of them were definitely abandoned under the stress of war.

§ 9. *The Quantity of Standard Money.* We have now reached this point, that in Western countries the quantity of all other kinds of money is determined, more or less directly, with reference to the quantity of standard money. We are left, therefore, with this final question: "What determines the quantity of standard money?"

The answer to this question depends on whether the standard money is token or full-bodied money. If it is token money, its quantity depends on the will of the Government. If private individuals were allowed to create it, its quantity might well increase indefinitely; but Governments prevent this by keeping the monopoly of creating standard token money under their own control, and creating as much or as little of it as they think fit. Its quantity may indeed be directly determined by the officials not of the Government but of a bank, as in France and Germany to-day, where the notes of the Bank of France and the Reichsbank respectively are now the most important form of standard

money. And the "competent authority," whether belonging to Government or bank, may not be entirely unfettered in his decisions: thus the legal limit to the note issue of the Bank of France, though it has been raised many times in the last few years, still exists. But in these times both banks and Parliaments have a way of doing what they are asked to do; and in most countries to-day with a token standard money, the convenience of the Government is the decisive factor in determining its volume. And the convenience of the Government generally dictates that that volume shall be very large.

If, however, a standard money is full-bodied—if the stuff of which it is composed is not worth materially more as money than it would be in some other use—we can be pretty sure that the quantity of it is not being artifically restricted by Government. For by far the simplest—thought not indeed the only possible—way for a Government to keep the value of the material as money from exceeding its value in other uses, is to allow its unrestricted use as money, either by doing nothing or (more commonly) by actually offering facilities for its unrestricted conversion into money. For then, if the value of the material as money shows signs of exceeding its value in other uses, people will withdraw it from those other uses in which its value is less, and bring it to the Government to be made into money; and this process will continue until its value as money falls to an equality with its value in other uses.[1] If, as generally happens, the Government charges a small fee for the

[1] For an illustration of the *way* in which such a fall comes about, the sceptical reader must wait in patience till Chap. V, § 2.

trouble of coinage, such money is not thereby excluded from our definition of "full-bodied money"; for its value as money only exceeds the value of the material of which it is composed by a quite small and definite amount. All important western countries have for some time possessed a standard money made of gold, and all now permit the unrestricted coinage of gold.

It looks, therefore, at first sight as though we could take another step forward, and say that the quantity of full-bodied standard money in a country depends on the value, for other than monetary uses, of the material of which it is composed. But before taking this step we must beware. In the first place, from the standpoint of any one country, the alternative employments which are open to the material in question include employment as money in other countries; and the quantity of full-bodied standard money in the first country depends therefore partly on the extent to which other countries choose to make use of the same material for monetary purposes. This is a very important matter, for it means that a country with a standard money made of gold is liable to be at the mercy of any change of fashion not merely in the methods of decoration or dentistry of its neighbors, but in their methods of paying their bills. For instance, the determination of Germany to acquire a standard money of gold in the 'seventies of last century materially restricted the increase of the quantity of standard money in England.

Secondly, while Governments do not artificially restrict the volume of full-bodied standard money, it does not follow that they do not keep it artificially large: and in fact that is exactly what most of them at

present are doing. If the value of gold as money should come to *fall short* of its value in other uses, the natural remedy would be to turn it to other uses, by melting it down or sending it to other countries which use gold money. But Government can prevent this happening by prohibiting the melting or export of gold money. Thus while the gold money remains full-bodied standard money according to the terms of our definition (for so far from being worth more than the gold of which it is composed, it is actually worth less), yet the lower limit of its amount is fixed, as in the case of token standard money, by the fiat of the Government.

This is precisely the condition of the English money-system at the present day. There is what is called a "premium on gold," at present of about 24 per cent, that is to say the value of the gold contents of the sovereign exceeds by about 24 per cent the value of the unit of standard money, whether Bradbury or sovereign. But even if we grant that the Bradburys are freely convertible into sovereigns, it is forbidden either to melt or (except under certain exceptional conditions) to export the sovereigns so obtained; and they would therefore be no more use to the ordinary law-abiding citizen than the Bradburys. Thus the lower limit to the quantity of sovereigns in existence is fixed by the Government, and the premium remains.

Further, while it is still open to anyone to bring gold to be made into money, it is no private person's interest to do so, since the gold will be worth less as money than in its natural state. Only the Government could, if it thought it worth while, stand (out of public funds) the loss of converting gold into gold money. Thus while

we cannot say that the Government is artificially restricting the quantity of sovereigns, it and it alone would be in a position to increase that quantity: and we may therefore fairly say that in such circumstances the upper as well as the lower limit to the quantity of full-bodied standard money lies, as in the case of token standard money, within the discretion of the Government. In face of such facts we clearly cannot yet make any general statement about the way in which the quantity of full-bodied standard money is determined.

§ 10. *The Meaning of a Gold Standard.* In order to make progress, it will be convenient to examine at this point the meaning of a phrase which is often heard nowadays. What is meant by saying that a country "has a gold standard" or "is on a gold standard"?

There are three questions to be asked. First, in order to have a gold standard, is it necessary to have a standard money made of gold? The answer to this question might seem absurdly obvious, unless we happen to know about the case of India, which has never had a standard money of gold, but where, as we shall see presently, the quantity of standard money was nevertheless for many years regulated in accordance with the value of gold. It has, however, become usual to call the pre-war Indian system a "gold exchange standard," because the Government operated it mainly by buying and selling the money of a country—England—which had a true gold standard. It is better to confine the term "gold standard" to countries which have themselves a standard money of gold.

Secondly, in order to have a gold standard, is it neces-

sary that all other kinds of money should be ultimately convertible into gold money—that there should be no standard money other than gold? If we are going to be very strict we shall answer, Yes. Before the war France had a limited quantity of token standard money made of silver, and so has the United States to-day. Such countries are sometimes said to have a "limping" standard, because their standard has as it were two legs, one of gold and one of silver, but the silver leg is crippled and deformed. But it would really be rather too Puritanical to assert that the United States, which is in essence almost the only important country to-day with an effective gold standard, is not a gold standard country at all. If we are seeking for what our Bradbury called the higher truth, we shall not deny a country's claim to have a gold standard merely on the ground that it has a certain small and strictly limited amount of non-gold standard money.

Thirdly, in order to have a gold standard, is it *sufficient* that all other kinds of money should be ultimately convertible into gold money? The answer is No, not unless they are *unconditionally* convertible: not, that is to say, unless the gold money itself is convertible, by melting or export, into ordinary gold. England, therefore, even if we regard the sovereign as the only standard money, has not at present a gold standard.

A gold standard country then is one in which, for all practical purposes, all kinds of money are ultimately convertible into full-bodied gold money, and that full-bodied gold money is itself freely convertible into ordinary gold and freely exportable. It is difficult to

find any example of an absolutely strict gold standard country except pre-war England: but if we are not determined to be too strait-laced, we can include also most pre-war continental countries, and present-day America and Japan.

§ 11. *The Quantity of Money and the Cost of Production of Gold.* Let us now at last attempt to frame an answer to our question, What determines the quantity of standard money in a Western country? Of any gold standard country, but of such a country alone, we can state the answer as follows. Given the conditions of demand for money in that country, the quantity of standard money (and therefore indirectly of all money) is determined by the value of gold for all uses other than its use as money in that particular country, that is to say by the world's demand for gold and the quantity of gold existing in the world.

Now can we take one further step, and say that the quantity of gold in the world depends on its cost of production, and that its value tends to equal its cost of production? Half a century or so ago it would have been very difficult to assert anything of the sort; for the discovery of gold was in those days something of a windfall, and its production was not carried on with any close regard to costs. The great gold discoveries of the 'fifties in Australia and California were largely fortuitous, and production, for those who were successful, was mainly a matter of washing free of sand the gold in surface deposits, and bringing it to market. But there has been a considerable change in this respect in recent years, for the surface deposits of gold are practically

exhausted, and what may be called picture-palace methods of production are obsolete. Gold mining, especially in the Transvaal, is now a matter of costly chemical and mechanical processes, and conducted like any other business with a careful eye to receipts and costs. Any great change in the value of gold therefore speedily influences the actions of gold producers. The means by which it affects them depends on whether they live in a gold standard or a non-gold standard country. In the former case there is a change in their money expenses of production, in the latter a change in the money price which they get for their product: in either event there is likely to be an appreciable effect on their annual output of gold. For if the value of gold falls they will curtail their production, and if it rises they will expand their production, just as would the producers of any other commodity in like case. Thus there is a tendency with gold, as with other things, for its value to correspond with what we will call its marginal cost of production—that is, with the cost of production of that part of the annual output which is wrested with most difficulty from the lap of Nature.

We must not, however, conclude from this that there is any tendency for the value of gold to remain *stable.* For the marginal cost of production of gold, like that of most other things, is not a fixed amount, but varies according to the quantity produced. Thus a great fall in the value of gold, due to a falling off in the world's demand, would lead to the closing down of a number of the more unfertile mines (or parts of mines) which it no longer paid to work; and the new marginal costs, being those of more easily won gold, would be in har-

mony with the reduced value of gold. But this restriction of output would not be likely to have much effect in causing the value of gold to rise again. For first, the whole annual output of gold is only a small proportion —about 3 per cent—of the world's total supply, so that even a large percentage decrease in the annual output would only lead to a less rapid increase, and not to a decrease, in the total supply. Secondly, if the proportion of output which comes from the so-called "low grade" or infertile mines and parts of mines is not great, a fairly small reduction in output will suffice to bring the marginal costs of production into correspondence with the reduced value of gold. As a matter of fact the fall of about 50 per cent in the value of gold between 1915 and 1919 was accompanied by a decrease of only about 22 per cent in the annual output, and of course by an actual increase in the world's total stock. And somewhat similar reasoning suggests that a great rise in the value of gold would not be likely of itself to lead to a great proportionate increase in the world's stock.

We can say, then, that the quantity of gold in existence is ultimately limited by the cost of production of gold, but not that it depends on it in any direct and simple manner. And we can say that the value of gold tends to equal its marginal cost of production, but not that it is determined by it. Further, we must remember that these facts do not imply that the value of gold tends to remain stable. Bearing all this in mind we may fairly say that in a gold standard country the quantity of money is ultimately limited by the cost of production of gold, and that its value tends to equal the marginal cost of production of a given weight of gold.

But of Western countries without a gold standard, we must say that neither the quantity of money nor therefore its value bears any relation to the cost of production of any material of which money is made.

§ 12. *The Gold Exchange Standard.* The main task on which we embarked at the beginning of § 9 is thus concluded. But it will be convenient to add a little more here about an interesting group of countries which before the war included India, and still contains a number of countries (such as the Philippines) with a political status similar to hers. In these countries the standard money is token money, but is nevertheless regulated by Government in a manner which is not arbitrary, but is designed to keep the value of the standard money stable in terms either of some other country's money or of gold. Before the war this end was attained in India by the following devices. The Government would always hand out 15 rupees in exchange for a sovereign in India; further, it would always hand out approximately 15 rupees in India in exchange for a promise to pay it a sovereign in London. By these means the gold value of the rupee—its value, that is, in terms of gold—was prevented from appreciably exceeding one-fifteenth of a sovereign: for if it showed signs of doing so, there were always people who would offer sovereigns to the Government and demand rupees. But the Government would also always promise to give approximately a sovereign in London in exchange for 15 rupees handed to it in India: so the gold value of the rupee could never fall appreciably short of one-

fifteenth of a sovereign, because if it showed signs of doing so there were people who would bring rupees to the Government and demand a promise of sovereigns. This system received a severe shaking during the war, but it was supposed in 1920 that it was about to be reinstated, with the following modifications. The value of the rupee was henceforth to be kept stable in terms not of the sovereign but of the gold contained in the sovereign, and was to be one-tenth and not one-fifteenth, the former change being necessitated by England's departure from a gold standard, the latter by the rise which had taken place since the war in the gold value of the silver of which the rupee is made. But owing to various causes it has hitherto been found impossible to make these decisions effective, and the gold value of the rupee at present fluctuates just like that of the lira or the franc.

It was a noteworthy, though not an essential, feature of the Indian system that while the Government regulated the quantity of standard money, it did not regulate the total quantity of legal tender. For the sovereign was freely imported into India, where it was treated as legal tender though not as standard money, as it still is to-day (p. 46).

Under this system, then, the quantity of standard money is regulated by Government not arbitrarily, but with reference to the world value of gold: and the value of the money of such a "gold exchange standard" country tends, like the value of the money of a gold standard country, to equal the marginal cost of production of a given weight of gold.

Finally, of those countries in which full-bodied op-

tional money is of importance, we may say that the total quantity of money, and therefore its value, depends in part, but only in part, on the existing quantity of gold or silver as the case may be. With such countries we shall not further concern ourselves.

CHAPTER IV

BANK MONEY AND THE PRICE-LEVEL

"And the moral of that is—'The more there is of mine the less there is of yours.'"

Alice's Adventures in Wonderland.

§ 1. *Prima facie Objections to Bank Loans.* We have seen that even in a gold standard country, where the quantity of standard money is regulated by the world supplies and world value of gold, the *total* quantity of money is regulated partly by the decisions of Government and bankers. But we do not yet know all we should like to know about these decisions. Why do bankers and Governments create money at all, and how do they put into execution the decisions which they make about the quantity to be created?

We shall confine ourselves in this chapter, for the sake of clearness, to the kind of money which preponderates in volume in Anglo-Saxon countries, namely bank money. A good deal of what will be said can be applied, with modifications, to the common money created in such quantities by Governments and banks in other countries. But we cannot study everything at once; and further, by confining our attention to bank money, we may perhaps make progress with our other unsolved question—the question of the means by which variations in the quantity of money affect the level of prices—a question which, as we saw,

depends for its answer on the particular kind of money concerned.

The banks, it will be recalled, do not themselves directly create bank money, but only the checking accounts which give rise to bank money. But once we have clearly understood the relation between checking accounts and bank money, we need not be afraid to speak loosely of the banks creating bank money. For what purpose then do the banks create bank money?

The answer is that the great bulk of bank money has its origin in the desire to exploit what was described in Chapter I, § 4 as the third great advantage of money —its convenience as a method of making payments in advance of all kinds. Bank money originates in *loans* made by the banks to those who are engaged in productive enterprise. A farmer, for instance, who expects to harvest his wheat-crop in a year's time, applies to the bank for a loan of $5,000; and the bank creates for him a checking account of $5,000, that is to say it gives him the right to create bank money, as and when he requires it, up to the amount of $5,000. Within these limits the farmer draws checks (that is, creates bank money) in accordance with his requirements for the hire of labor, the purchase of implements, and his own personal expenses. At the end of the twelve months he harvests and sells his wheat-crop, and repays his loan to the bank. Meanwhile the bank charges him interest upon it.

To the ordinary business man there is nothing whatever mysterious about the whole process. But the reader without any practical experience of similar transactions need not be ashamed to confess to a feeling

of slight bewilderment. For let us see what has happened. By a wave, apparently, of the bank's magic wand, the farmer and his men have been enabled to live for a year at the expense of the general community. The bank has given them a claim on the community's real income of railway transport and cinema shows, and on its real income and accumulations of food and clothing and tools. And for rendering this service to the farmer the bank charges him something which it calls "interest." Here is enough to make the student tear his hair. He has learnt with toil and trouble that interest is the reward of saving—of piling up real goods and keeping your hands off them: yet here is the bank apparently getting interest for the service of creating money, which may be a very valuable service, but is certainly not saving. We shall feel inclined to make two accusations against the bank. First, that while it makes a show of "lending" to the farmer, it has taken no steps to insure that at the date the "loan" is made there is any real stuff in existence to lend. Secondly, that while undoubtedly the farmer and his men are somehow or other maintained during the next twelve months, it is the community at large which stints itself to maintain them, while it is the bank which gets the "interest."

§ 2. *A Provisional Justification of Bank Loans.* To see whether these accusations are just, let us inquire what really happens, first when the farmer makes his purchases, and then when he sells his crop. To simplify matters, let us suppose for the moment that there is only one bank in the country, and also only one trading

and shopkeeping body—a kind of giant Coöperative Wholesale or Super-Selfridge's. It is then from this Mr. Super-Selfridge, as we will call him, that the farmer —partly with bank money and partly with common money, partly directly and partly through the medium of his workmen—makes all his purchases. Mr. Super-Selfridge pays the money so received, whether bank money or common money, into the bank, and is thus enabled to build up a checking account at the bank. This checking account, while it is a *consequence* of the farmer's checking account, is quite different from it in nature; for it has not been created by way of loan to Mr. Super-Selfridge, but represents a claim on the income of the community which he possesses in his own right. When all the farmer's purchases have been made, the farmer's checking account has vanished, and Mr. Super-Selfridge's checking account has increased by $5,000.

But it is also Mr. Super-Selfridge who ultimately buys the farmer's crop. He does this by giving the farmer a check for $5,000, which the farmer pays into the bank in repayment of his loan. This operation reduces Mr. Super-Selfridge's checking account, and with it the bank's total deposits, by $5,000. Now we know that the bank aims at keeping some sort of conventional proportion between its deposits and its reserves of common money. There has been nothing in all that has happened to alter its views about what this proportion should be. Nor has there been anything to alter the actual amount of its reserves: for while the farmer will probably have taken out part of his claims upon the bank in the form of common money for the payment of

wages and for small purchases, that common money will have found its way back, through the coffers of Mr. Super-Selfridge, into the bank. There is therefore nothing connected with its reserves to deter the bank from increasing its deposits to their old figure by making another loan of $5,000, if it sees any point in doing so, And undoubtedly it will see great point in doing so: for on such a loan it will get interest. Supposing, therefore, a deserving bootmaker comes along with a request for a loan of $5,000 to enable him to lay in a store of leather and pay his wages until he can place his boots on the market, his request is granted with alacrity, and the creation of bank money begins again.

We see then that so far as the bank is concerned the second loan springs out of the first, and its arrangement is conditional on the repayment of the first. But what has happened outside the bank? Has the community no real saving, no accumulation of real goods, to show for this second loan? Yes, it has the farmer's wheat-crop. That crop, it is true, is not in the possession of the bootmaker or even of the bank; but it is there. The bootmaker may not know, and the bank may have forgotten, about its very existence: but it exists, and it will be something for the bootmaker and his men to get their teeth into. (Of course they do not live on bread only; but remember this is only one specimen transaction out of many.) But for the existence of this wheat-crop the second loan would not have been made. Moreover the "first" loan itself presumably had a similar origin: for of course it is only the "first" in the sense that we have chosen to break at this particular point into the unending round of economic life, and not

in the sense that we are attempting to go back to the first syllable of recorded time. So long as the system of bank loans works in this way, then, it seems to have cleared itself of the first of our charges, that it makes no provision for the performance of real saving. The twin processes of real saving and the creation of bank money are seen in this instance to be proceeding concurrently, bound together by real though invisible and unconscious ties.

The reader who has thoroughly understood the process described on p. 52 will be able to see for himself the complexities which would have to be introduced into the above argument to make it applicable to the English banking system, with its plurality of banks, each with a checking account at the Bank of England. As for the fiction of Mr. Super-Selfridge, it has enabled us to follow a single transaction through to the end. Of course in real life the merchant who buys the farmer's crop is a different person from the merchants and so forth who keep a stock of his requisites: and, further, between these latter and the farmer there is often a whole host of intermediate traders, each with a checking account which is first swollen by the advent of the bank money originated by the farmer, and then impoverished by its departure. But what is a true analysis of one specimen transaction in our simplified case is a true analysis of the whole aggregate of similar transactions in real life.

§ 3. *Interest on Bank Loans.* Now what about our second accusation—that the bank reaps where it has not sown, and takes the interest which is the reward of

other people's saving? This turns out to be only partially true. Let us make the same suppositions as before of the one bank and the one Mr. Super-Selfridge; and also for a moment one more—that our bank's money is the only kind of money in the country. Now it is clearly Mr. Super-Selfridge who is in charge of the business of accumulation, who is doing the real saving: and he is therefore (as the world goes) entitled to interest, or at any rate he will not do his job unless he gets it. From whom then can he get interest? Not from the farmer, who is already paying interest to the bank, and will not see the fun of paying it twice over. Can Mr. Super-Selfridge get the interest from the bank? Yes: the bank will have to pay him interest on the amount of his checking account, unless it is prepared to see one of two things: either Mr. Super-Selfridge himself taking over the business of banking (which is after all no such impossible matter), or the collapse of the whole system of private trading and accumulation, on working in with which the bank depends for a livelihood. But the bank is performing a service for Mr. Super-Selfridge, and it will therefore not pay him such a high rate of interest as it receives from the farmer: and the difference between the rate of interest which the bank receives and the rate of interest which it pays is not really interest in the true sense at all, but is a charge made for acting as go-between for the farmer and Mr. Super-Selfridge—that is for performing the service of banking.

With the English banking system, the forces impelling the bank to pay interest to Mr. Super-Selfridge will be more obvious and pressing. For if it declines, he can either withdraw his checking account in the form of

common money or transfer it to another bank: and the effect in the first case on our bank's reserves of common money, in the second on its checking account at the Bank of England (see p. 52) would seriously upset its calculations about its proportion of reserves to deposits. Thus a bank is actually compelled to pay interest on its deposits by the force of competition and by fear for its reserves. But it is important to see that under *any* banking system a bank would be compelled, if it is to keep its job, to hand over part of the interest that it receives. Not even a complete banking monopoly could afford in the long run to attempt to withhold altogether the reward of saving from those to whom it is "due," though of course it would be in a very strong position for raising its charges for the service of banking, and thereby sweating those who do the real saving.

In real life, of course, our Mr. Super-Selfridge is split up into a complex host of traders, speculators, investors, and so forth, whose power of securing interest from the banks is smaller that that which we have attributed to Mr. Super-Selfridge. For not only are they in competition with one another, but many of them are small men, whose checking accounts at the banks are small and fluctuating, so that the banks can fairly urge that they are more trouble than they are worth, and decline to pay interest on them altogether. Such people have what the banker calls a "current account" which can be turned into common money at a moment's notice but carries no interest, and not what he calls a "deposit account," which carries interest but which its owner cannot insist on turning into common money without seven days' notice. For these reasons the difference

between the aggregate of interest received by the banks and the aggregate of interest paid by them is very considerable, so considerable that it is not surprising that we thought at first sight that the banks secured the reward of saving without performing the service of saving. It appears now that we must withdraw this accusation; but it appears also that we were right in jibing at the word "interest." For the difference between the aggregate of "interest," which the banks receive and the aggregate of interest which they pay is the price which the community pays not for the service of saving, but for the convenience of the particular mechanism by which a part of the real savings which are made is brought into effective use.

§ 4. *The Possible Stagnation of the Banking System.* So far then all is well. A banking system working in the way we have described seems well adapted not merely to oil the wheels of industry but to preserve its stability. For the creation of money does not outrun the production of goods, nor does the production of goods outrun the creation of money. But we must now go on to observe that this conclusion holds good only on the assumption that the community we are examining is a stationary one, making no economic progress. Now we Western folk have grown accustomed, whether rightly or not, to regard such a state of affairs as abnormal; we are inclined to expect that the annual output of goods and services of all kinds should increase from year to year. In any case it is clearly possible that it should so increase. But how is our banking system to create an annual increment of money corresponding to

this annual increment of goods, since it must not break that sacred proportion between reserves and deposits which is the basis of all its calculations? Without inquiring at the moment too closely how this growing disharmony between the volume of money and the volume of goods will manifest itself, we can allow ourselves to conjecture that it will in some way impair the stability of industry; and we are driven to suspect that a banking system such as we have described, tied by more or less fixed rules to a more or less fixed reserve of common money, would fail adequately to respond to the needs of a progressive industrial society.

Now there are a number of people who think that an accusation of this character can fairly be brought against the English banking system. Year by year there is a steady stream of books and letters seeking to prove that it has hampered trade and industry by its sluggishness in creating the increments of money called for by the increments of real wealth which continually arise in a progressive industrial society. We shall find it difficult to accept this view. In the first place there are, as will be pointed out presently, certain inherent tendencies in the system of banking which tempt it to be too eager rather than too reluctant to create increments of money. Secondly, as a mere matter of history, even if we leave the last seven years out of account, the money-creating capacity of the English banks has expanded on the whole at a huge rate, and that for two reasons. First, by means of various devices—amalgamation, the clearing-house, the checking account at the Bank of England—the banks have continually been

working out means of economizing in their reserves, and of creating a larger edifice of bank money on a given foundation of legal tender. Secondly, the quantity of legal tender at their disposal has tended on the whole continually to increase. An exception must perhaps be made for the period of the 'seventies and 'eighties of last century: but on the whole, and especially in view of the experiences of the last few years, there is little ground in history for charging the English banking system with slothfulness in the manufacture of money.

It may quite fairly be urged, however, that this is due to a series of historical accidents, on whose repetition we cannot count. It is not sufficient, therefore, to dismiss the views of the "more money" enthusiasts as obvious nonsense, as is so often done by certain rather confident persons who pride themselves on being "sound money" men. The heretics seem to have grasped more firmly than many "orthodox" economists and practical men this central truth, that the creation of a really satisfactory money would be regulated primarily by the needs of trade, and not by any such essentially irrelevant matter as the quantity of some particular metal. We are bound, therefore, to inquire what would happen in a progressive industrial community if the banking system proved unduly reluctant to create increments of money.

§ 5. *The Case for the Creation of Additional Bank Loans.* This inquiry brings us at last to grips with the problem so long postponed—the problem of the means by which the connection between the quantity of goods, the quantity of bank money and the level of prices estab-

lishes itself. In approaching this problem there is one principle which cannot be kept too firmly in mind. Economics, according to a famous definition, is "the study of mankind in the ordinary business of life": and the only proximate "cause" of any economic event is a decision made by some human being or group of human beings. Whether or no there be in physics, there is in economics no such thing as "action at a distance." And the determination of prices is no exception to this rule. The price of a thing only falls because somebody who possesses it decides to accept less money for it, or because somebody who wants it decides not to offer so much. And the price of a thing only rises because somebody who wants it decides to offer more money for it, or because somebody who possesses it decides not to part with it for so little. The quantity of money and the quantity of goods do not affect the price level by some kind of occult planetary influence: they affect it by modifying the capacity or willingness of human beings to buy or refrain from buying, to sell or refrain from selling. This is all very obvious, but it is not always remembered.

The application of this principle to our particular inquiry is simple. In a community where the supply of goods was increasing year by year, while the supply of money remained fixed, the quantity of goods in the hands of sellers of goods would increase, while the total quantity of purchasing power in the hands of buyers of goods would be unaffected: in order, therefore, to prevent goods for which they have no personal need accumulating in their possession, the sellers would be obliged to part with them at a lower price. Thus prices would

fall for one of the only two reasons for which prices *can* fall—because the possessors of goods would be content to accept less money for them than formerly.

Now how could the banks prevent such a state of affairs? There is only one answer. Bankers it is true must eat, and bank clerks must have pens: but the extent to which the banks are themselves purchasers of goods is trifling when compared with the whole field of business transactions. The banks therefore could only create appreciable increments of money by way of *loan*. By lending more money to the buyers of goods they could impart to prices a tendency to rise for one of the only two reasons for which prices *can* rise—because those who want goods will be able and willing to offer more money for them than formerly. And by so regulating the amount of their additional loans that this tendency just counteracted the other, the banks could insure the stability of prices and the steadiness of trade.

Let us consider, then, the proposition sometimes made by the "more-money" enthusiasts—that any increment of goods arising or expected to rise in a country should have the power to call forth a corresponding increment of money—in other words, that the possessor or prospective possessor should be able to borrow on them from a bank up to the full amount of their value at current prices. We shall not listen, remember, to any objection raised by the bank on the score of the effect on its legal tender reserves: we are reviewing the whole system *ab initio*, and we shall be quite prepared to advocate a revision of the laws and customs about legal tender if it seems to be necessary. What we want is to discover the effect of the proposed arrangement on

the stability of the value of money and the steadiness of industry and trade.

Let us take a very simple instance. Suppose that two gentlemen, Mr. Eggman and Mr. Orangeman, arrive in this country by aeroplane from opposite directions, one with nothing but a couple of eggs in his pocket and the other with nothing but a couple of oranges: and that the current price of both eggs and oranges is 10 cents each. Suppose that each airman, after eating half his ration, would be glad to exchange the remainder for the surplus ration of the other; but that they are too civilized and well trained in modern business methods to effect a direct exchange. Nothing can be more reasonable than that they should knock at the door of the nearest bank, and by brandishing their wares in the banker's face persuade him to create for each of them a checking account of 10 cents. They then exchange checks for 10 cents in mutual payment for their wares, and each promptly repays his loan to the bank. Everybody is satisfied. The two airmen have been saved from starving in the midst of plenty: the rest of the country carries on its business unperturbed, for the appalling slump which might otherwise have occurred in the egg and orange markets has been avoided: and the bank has performed its duty of oiling the wheels of trade—and perhaps gets the eggshell and the orange-peel as a reward. The proposal of the "more money" enthusiasts seems to be justified.

§ 6. *Dangers Involved in Additional Bank Loans.* A little reflection, however, will show that this case is not the only possible nor perhaps the typical one. Sup-

pose now that Mr. Orangeman is not an airman at all, but a local hawker, so that his orange does not, like Mr. Eggman's egg, constitute a net addition to the volume of goods in the country. And suppose that only Mr. Eggman borrows from the bank in order to effect his purchase. It will then be possible for Mr. Orangeman to pay Mr. Eggman's check into the bank, and draw *of his own right* a check for the same amount with which to purchase Mr. Eggman's egg. Let us see what has happened in this case. The volume of bank-loans and the volume of exchangeable goods (reckoned at prices hitherto current) have both been increased by ten cents: but the volume of available money has been increased by twenty cents—namely, by two checks of ten cents each. The stability of trade and prices has been upset; for whereas Mr. Orangeman's increased money demand for eggs has been offset by an increased supply of eggs, Mr. Eggman's increased money demand for oranges has not been offset by an increased supply of oranges: and the price of oranges will therefore tend to rise.

Now let us carry our illustration one stage further. Suppose that Mr. Eggman, having raised his loan, buys Mr. Orangeman's orange as before, but puts his egg into cold storage and refuses to sell it. Mr. Orangeman will then use his checking account to buy (say) a packet of cigarettes from his neighbor Mr. Tobaccoman, and Mr. Tobaccoman in turn will buy a loaf from Mr. Breadman, and so on, and so on. The checking account originated by Mr. Eggman's loan will change its habitation not once (as in our first case) nor twice (as in our second case), but many times.

We see now, therefore, that the creation of additional

bank loans to the full amount of an addition to the supply of goods may increase the volume of available money out of proportion to the increase in the volume of available goods; and the ability of buyers to buy being thereby increased in greater degree than the willingness of sellers to sell, the level of prices will tend to rise. And the cause resides in our old friend the "velocity of circulation," or the peculiar relation of checking accounts to checks. The proposed plan would only be sound if the pieces of money created as the result of a bank loan only changed hands once, or rather, to be quite accurate, if they only changed hands as often as the goods which elicited the loan.

But this is not as a rule the case: for it is the third and final version of the story of Mr. Eggman which corresponds most closely to the conditions of real life. For in real life the additional bank loan, to be of any use to the borrower, must be created *before* his additional goods are ready for sale. The man who wants to borrow from a bank does not as a rule resemble our original pair of airmen, who had goods ready for sale, but were hung up by a mere mechanical difficulty. He is a man whose products are *not* ready for immediate sale. If he is a shopkeeper they are in his show window, if he is an importing merchant they are on the sea, if he is a farmer they are still in the ground, if he is an inventor they are still in his brain: it is all a question of degree. In any case while the goods are coming to birth, the money created on the strength of them is going on its travels, flitting from checking account to checking account

> Like the wandering dove which found
> No repose on earth around:

and everywhere it perches it tends to raise prices, by increasing the willingness of somebody to buy goods.

This whole matter of additional loans thus revives the suspicions with which in § 1 we approached the banking system. For in the case of an additional loan it is true that the bank "lends" money without insuring that at the date the loan is made there is any real stuff to lend. There is not necessarily any corresponding preliminary accumulation of goods, such as was represented in our original instance by the farmer's wheat-crop. And if there is not, any saving that is done is done during the currency of the loan, as it were impromptu and at the eleventh hour, by the members of the general public, who find the value of their money diminished, and are forced to abstain from consumption which they would otherwise have enjoyed. The community is in effect compelled, by the extra purchasing power put into the hands of the borrower, to share with him its current income of real things, and such hoards of real things as it may possess. Of course the additional loan will presumably justify itself by and by, by adding to the flow of real goods; and the shorter the period before the new goods are ready and the loan repaid, the less scope the money generated by the loan will have for running amuck. But so long as it is outstanding, the loan is of the nature of a tax or compulsion to save imposed on the general community jointly by the borrower and the bank. And if the loan is for anything like the full amount of the expected value of the goods, the goods even when they arrive will not exert so great an influence towards a fall of prices as the

money created on the strength of them has exerted in the interval towards a rise of prices.

Nor has such a forced loan the usual merit of forced loans—that they do not carry a full rate of interest. For as we know the borrower pays the bank interest, and the bank hands over part of it to other people. But the interest does not necessarily go to those who, under the pressure of rising prices, do the real "abstinence." The effect of an additional bank loan may be that the community has to stint itself temporarily to meet not only the claim on goods exercised by the borrower, but also that exercised by the receivers of money interest.

It must not be concluded that every addition to the volume of bank loans must necessarily have these results. But they are the possible and indeed the probable results of any additional bank loan whose amount is made to depend on the increment of goods expected to accrue *to the borrower*, without regard to the increments of goods already in the hands of *other people* and available for him to purchase; and in particular of any additional bank loan of which the amount is anything like equal to the full value, at current prices, of the increment of goods expected to accrue to the borrower. Our "more money" enthusiasts are right in urging that to insure stability of prices and trade the volume of bank loans should be progressively increased to "meet the needs of trade:" but the simplicity of the mechanism by which they propose to connect the two is illusory and dangerous.

§ 7. *The Inherent Tendency of the Banking System to Excessive Creation of Money.* In the light of what we

have learnt about additional loans, let us now look back for a moment at the illustration by which in § 2, from the same standpoint of stability, we presented the case for a banking policy which in a stationary community should keep the volume of loans unchanged. It now becomes clear that our "second" loan—the loan to the bootmaker—was justified not by the fact (which satisfied the bank) that it was of the same amount as the first, nor by the fact (which satisfied the bootmaker) that it was about equal to the expected selling value of his product: it was justified solely on the assumption (which it was nobody's business to verify) that it would maintain a stable relation between available money and available goods. If (as is probably the case) boots are things which change hands less often than wheat, this assumption would be falsified in one direction—the average rate at which goods come to market would fall off, and the general level of prices would tend to rise. If however (as is also probably the case) the boots could be brought to market in a shorter time than the wheat, so that the new loan would be repaid, say in six months instead of a year, the assumption would be falsified in the other direction—the average rate at which goods come to market would increase, and the general level of prices would tend to fall. It is, of course, possible that in the instance chosen, and still more over a great field of similar transactions, these forces would cancel one another: but there is no reason to feel certain that they would. A "new loans for old" policy could not be relied upon even in a stationary community to insure stability in the value of money: it might give rise to instability in either direction.

On the whole, as was hinted in § 4, the inherent tendency of a modern banking-system is towards a too rapid rather than a too leisurely creation of bank money: and that for three reasons. First, the unbounded confidence of human nature in its capacity to achieve something exercises a constant pressure on the banks to create additional loans. Secondly, as a society grows in wealth it will naturally seek to sink a continually increasing proportion of its resources in construction and capital equipment of various kinds, which take a long time in coming to fruition, and, as the banker puts it, "tie up his money" for long periods; though, as we have seen, it is really the goods which are tied up and not the money, which is very much untied and "runs about the City." Thirdly, the bank is naturally tempted to snatch at any opportunity of increasing the interest which it receives. Now the creation of additional bank loans means additional interest: and the substitution of a long for a short loan means, in normal circumstances, higher interest, for the convenience to the borrower is greater. It is true that the bank has to hand over part of the interest which it receives; but that act of retribution is not immediate nor always very clearly foreseen. For if the bank makes an additional loan of $5,000 to a farmer, it charges interest immediately, and draws it from a single and clearly visualized source: but the process by which that $5,000 swells the checking accounts of the people from whom the farmer buys goods, and to whom the bank pays interest (or for whom it performs free services), is gradual, piecemeal and elusive. Thus the creation of additional loans is on the whole both profit-

able to the bank and likely to appear to it more profitable than in fact it turns out to be.

It is true also that the bank is eventually punished in another manner. For a considerable part of its resources is probably invested in Government securities bearing a fixed rate of money interest: and with the expansion of bank loans and the rise in prices and industrial profits (p. 12) such securities become unattractive to investors, and their market value drops, and leaves a hole in the bank's balance-sheet which has to be filled up out of current profits. But this punishment too is gradual and indirect, nor is it nowadays a permanent one: for nearly all present-day securities carry the right to ultimate repayment at their face value at some definite date.

§ 8. *English Banking Policy.* Now English bankers, being a prudent and honorable race of men, are both aware of these temptations and anxious to resist them. If they were perfectly omniscient, they would perhaps be able to disentangle the element of truth from the element of fallacy in the claims of the "more money" enthusiasts, and to adjust the quantity, quality and length of their loans to the needs of trade in such a way as to preserve the stability of the value of money and the steadiness of industry. But the necessary calculations, as our single instance of the farmer and the bootmaker suggests, would be extremely complicated, and require great powers of foresight and judgment, as well as statistical information which nobody at present possesses. It is not surprising, therefore, that our honest banker has an instinctive horror of the voices

of the More-money Sirens, and takes refuge in the two things which he really understands, by binding himself to the mast of Proportional Reserve and sealing his ears with the wax of Good Collateral. Of the former enough has already been said: the latter needs a word or two of explanation.

When an English banker is asked for a loan, he does not always, it would appear, regard the purpose to which the loan is to be applied as the primary object of his concern. He is much more likely to require tangible evidence that the borrower is a man of substance, in the form of some piece of property or stock exchange security—collateral, as it is called—which he can sell up if the borrower fails to repay him, and the nature of which has no necessary bearing whatever on the enterprise in which the borrower is engaged. This is not true of all lending which is done by or with the aid of the banks: in particular it does not apply to that form of lending for the purpose of bringing existing goods to market which is known as the purchase of bills of exchange. But it applies to a great many bank loans. And it is a plan which has great advantages, first in insuring that money does not get into the hands of mere adventurers and "men of straw," and secondly in preventing anything like that "tied house" system—that intimate interweaving of banking and industrial interests—which has gone so far in some other important countries to bring the whole of industry under financial domination. But from our present standpoint of stability the plan obviously has grave disadvantages, because it means that the banker is often imperfectly aware of what the effect of his loan is likely to be on the

value of money and the stability of industry. Nevertheless it is one of the banker's natural defences against the Siren voices.

And in the last few years the supreme tragedy has happened. The mast to which the banker had bound himself rose suddenly from its socket, and wafted him towards the dreaded voices: the wax with which he had sealed his ears became a perfect conductor of sound. Those things which should have been for his wealth became unto him an occasion of falling. It may seem a paradox to suggest that it was the bankers' very horror of the excessive creation of money which led them to become such compliant partners, with the Government on the outbreak of war and with the trading community on the outbreak of peace, in a tremendous orgy of money-creation. Yet such seems to be the truth.

The familiar tale of how this occurred must be briefly retold in the following chapter. There has been little in our analysis of the banking system hitherto which might not have been written in 1914, and little, perhaps, which will be out of date in 1940. The method of creation of bank loans, and the manner in which they affect prices, have been discussed in broad general terms because they are standing features of any modern banking system. But it will be more convenient, and perhaps more interesting, to fill in the details, especially as regards the part played by legal tender, and to deliver our final reflections on the problem of Money, by means of a discussion of certain specific questions which are exercising the minds of practical persons and the pens of newspaper correspondents at the present day. The analysis of this and the preceding chapters

will be freely used and applied: for while there are perhaps few people who would venture to urge to-day, as Ricardo urged a century ago, that "the true principles of political economy never alter, and those who do not understand that science had better say nothing about it," yet those principles have a way of turning up in unexpected places and illuminating unforeseen controversies.

CHAPTER V

THE WAR AND THE PRICE-LEVEL

"And thick and fast they came at last,
And more, and more, and more."
Through the Looking-glass.

§ 1. *Output and the Price-Level.* The first controversial question to which we may turn our attention is a well-worn one. Why was the level of prices in the United Kingdom so much higher in the spring of 1920 than it was before the war? In attempting to answer this question, we may conveniently take as our starting-point an explanation which has found favor in many quarters, namely that the rise in prices was caused mainly or entirely by the great increase in the volume of common money brought about by the creation by the British Government of Treasury notes in excess of the sovereigns withdrawn from circulation.

Some official figures published shortly after the peace presented some rather striking prima facie evidence in favor of this view. According to these figures, in August, 1919, the volume of common money was 144 per cent, the level of wholesale prices 157.2 per cent and the level of retail food prices 117 per cent above the 1913 level. The lag of retail food prices seemed natural, if only in view of Government control: but subsequent figures suggested a closer correspondence of the volume of common money with retail than with wholesale

prices. Thus in March, 1920, the volume of common money was 150 per cent above its level at the outbreak of war, while wholesale prices were 221.8 per cent and retail food prices 135 per cent above the 1913 level.

These figures are certainly remarkable, in view of the inherent defects of all index-numbers and the many possible sources of disturbance; and they were accompanied by figures for foreign countries which are in some cases equally striking. Nevertheless even a very close correspondence between two phenomena is clearly not a proof that one is the cause of the other. Let us therefore see what objections can be raised against this "Bradbury theory," as we may call it, of the cause of the rise in prices.

The first objection is a very obvious one. The theory, at any rate in its most extreme form, takes no account of changes in the demand for money, that is, in the volume of transactions to be performed with the aid of money. But this volume was smaller in the spring of 1920 than before the war, for two reasons. First, and less important, the average number of times which each thing changed hands was perhaps still somewhat less than in the old days. This was clearly true during the war, for two reasons.[1] First, a vast number of things were turned out which only changed hands once: military service, for instance, could not be dealt in, and mules and ammunition were rarely the subject of resale, though bully beef and blankets may have been now and again. Secondly, owing to the check put by Government action to speculation, many things which are normally bought and sold many times, such as cop-

[1] See Lehfeldt, in *Economic Journal*, March, 1918, p. 111.

per and wheat, were only bought and sold once or twice. By 1920 the first cause had been removed, but the second still persisted in the limited sphere in which Government control was still operative.

Secondly, and far more important, the actual volume of exchangeable goods was still in the spring of 1920 smaller than in 1914. As everybody knows, the output of a number of important things had fallen off seriously during the war, and had not yet completely recovered. One need only instance coal, of which the production in this country was 20 per cent less in 1919 than in 1913, and sugar, of which the consumption was 16 per cent less. Among other things, there is little reason to doubt that the restrictive action both of combinations of capital and of combinations of labor was in some industries keeping production below its old level. There is thus justification for the common-sense view that the high level of prices as compared with 1914 was due partly to a comparative shortage of goods. This is obviously, however, no proof that it was not also due in part to comparative abundance of money: and the Bradbury theory can afford to make an allowance for changes in the demand for money, and still remain essentially unscathed.

§ 2. *Gold Migration and the Price-Level.* The second possible ground of objection to the Bradbury theory lies in the fact that even in America, which remained on a gold standard, prices rose very considerably between 1914 and 1920, the proportionate rise being about two-thirds of that in England. The world value of gold in the spring of 1920 was less than half what it

was before the war: and while the value of English money according to our definition—its value, that is, in terms of goods in general—had fallen by 60 or 70 per cent, its value in terms of gold had only fallen about 25 per cent. According to this argument, then, it is not fair to blame the Treasury notes for the whole rise in prices, but only for the difference between the rise in English prices and the rise in gold prices.

The reason for this rise in gold prices (apart from the world shortage of goods) is not far to seek. Most of the belligerent countries, on entering the war, abandoned the gold standard, in so far as they ever had it, without a struggle: in other words, they decided that they could make shift to run their money-systems without the luxury of gold. Further, as time went on most of them wanted to make big purchases from the neutral countries; and since they were in no position to part with real goods, they used most of what gold they had for this purpose, so that the neutral countries (including pre-1917 America) were flooded with gold. This plethora of gold became a positive nuisance to the neutral countries: and Sweden at one point practically closed the doors of her mint and national bank against the influx of gold, in the hopes of obtaining from the belligerent countries something which would be of more real use to her. But the flow of gold continued, especially to the United States: and its arrival enabled the American banking system, without infringing the laws about proportional reserves (though indeed it revised them later), to increase very largely the volume of bank money and convertible common money created by way of loan to the business community and later to the Gov-

ernment, and so to set in motion forces tending to drive up the price-level. The principle enunciated on p. 64, that the value of money in a gold-standard country depends partly upon the monetary habits of its neighbors, received an overwhelming demonstration.

It must then be admitted that even if England had contrived to remain on a pure gold standard there would nevertheless have been a considerable rise in English prices. And if the object of our present inquiry is to decide what share of the blame for the rise in prices is to be thrown on to the Government, the admission is important: and some of the Bradbury theorists, who are rather inclined to treat any stick as good enough to beat a Government with, would do well to take more account of it. But if our object is purely scientific, and to discover what actually as things fell out caused the rise in prices, the Bradbury theory is not put out of court. It is no answer to it to say that if there had been no Bradburys something else would have caused a rise. For first, if England had been able to remain on a gold standard she would have helped to mop up instead of to swell the torrent of emigrating gold, and so have contributed towards checking the fall in its value: and secondly, the plea, "I didn't do it, and if I hadn't somebody else would have," is not a very convincing piece of logic.

§ 3. *The War Debt and the Price-Level.* But a third and much more important objection to the Bradbury theory will already have presented itself to anyone in whose mind the last chapter of this book is still fresh. We saw there that in England it is the volume of bank

money which is of preponderant importance, and that an increase in the volume of bank loans has a direct effect upon prices by increasing the ability of the borrowers to buy goods. It is natural, therefore, to inquire whether the great war rise cannot be traced to a similar source: and the answer is undoubtedly that it can. For in order to prosecute the war the Government not only borrowed the savings of private persons; it also borrowed from the banks, and from private persons who borrowed from the banks in order to lend to the Government: and since it was highly important to the Government that the leading industries of the country should be kept going as usual, and even at greater pressure than usual, these bank loans were additional to the already existing body of bank loans. The result was the creation of an enormous volume of additional purchasing power in the hands first of the Government and afterwards of those from whom it made purchases.

It is sometimes argued that the great bulk of the existing war debt—the £5000 m. odd of War Loan of various kinds which is held at home—could not still be operating to keep prices high in 1920. The fact that five years previously the Government had been making large purchases of steel and hay and cloth could not, it is said, be adding to the demand for goods in 1920; that was already all ancient history; all over and done with. To argue thus implies a complete misunderstanding of the method, explained in the last chapter, by which additional bank loans affect prices. A bank loan launches on the world a quantity of bank money, which travels about from checking account to checking account, increasing the power of one person after

another to buy goods: and its effect lasts until by the repayment of the loan to the bank a corresponding amount of money receives its quietus. And a bank loan created for the Government is precisely similar in this respect to a bank loan created for a private person.

It does not, however, follow that the repayment of war loan, borrowed directly or indirectly from the banks, would have had a very striking effect in reducing prices. Indeed it might have had no immediate effect at all, for the money repaid by the Government might have been forthwith lent to somebody else (for instance, to the municipalities to build houses with), so that the total amount of unchained purchasing power would have been unaffected. But even supposing that arrangements had been made to avoid this, there is an important difference between war loan and commercial loans to be taken into account. The repayment of a commercial loan out of the proceeds of the sale of goods involved two processes, each of which operates on prices. It imprisons some vagrant money, and so diminishes the ability of buyers to buy; and it liberates some imprisoned goods, and so increases the willingness of sellers to sell. The repayment of war loan, except to the extent (likely to be small) that it was made out of the proceeds of the sale of war stores or the profits of Government enterprise, would have operated only in the first of these two ways. The redeeming feature of ordinary additional loans—that they add ultimately to the flow of goods—was almost altogether absent in this case.

In so far as the repayment of war loan were to have been made out of the proceeds of ordinary taxation, it

could only have affected prices in one way, namely by mopping up some of the bank money and common money in the hands of the general public, and so reducing the general public's ability to buy goods. When we assert, therefore, that the great bulk of the war debt was still a factor contributing to keep prices high in 1920, we do not mean either that its repayment would necessarily have lowered prices considerably, or that if it had the process would have been painless.

The existence of the great war debt also tended indirectly to raise prices in another way, and that is by providing an abundance of good collateral (p. 95). For while the offer of good collateral will not prevail on a banker to desert altogether his views about the proper proportion of reserves to deposits, it is likely to induce him to interpret them generously, and likely therefore to exert an influence towards an increase of loans and itinerant bank money. Here, then, we see one way in which the very conservatism of bankers tempted them, in changed conditions, to lend a ready ear to requests for the creation of money.

§ 4. *Treasury Bills, Ways and Means Advances and the Price-Level.* So much for the connection between the great bulk of the war debt and high prices. There are, however, two portions of the debt which exercised in addition a less direct but much more powerful influence towards driving prices upwards.

First, some £1000 m. of the debt was borrowed originally for short periods of a few months; and of these Treasury Bills, as they are called, a fair proportion was subscribed by the banks. Now the banks,

knowing that they could call upon the Government to repay these Bills at an early date, gradually came to regard them as not very different from common money, in the same way as they had always regarded their checking accounts at the Bank of England as equivalent to common money. They did not, it is true, include them, as they included their checking accounts at the Bank of England, in their published statements of "cash reserves": but the fact that they could treat them as a potential source of common money enabled them to keep a smaller proportion of "cash reserves" to deposits than they had hitherto deemed advisable, in other words to expand their loans. Thus if a bank lent £1000 to the Government by taking up War Stock the volume of vagrant purchasing power was increased by £1000; but if it lent £1000 to the Government by buying Treasury Bills the volume of vagrant purchasing power was ultimately increased by an appreciably greater amount. And so long as these Treasury Bills are neither repaid by the Government nor converted into a security which does not carry a right to speedy repayment, so long is there a force at work tending to keep the volume of bank money in the country abnormally large as compared with the volume of common money, and therefore to maintain prices.

Secondly, a small but important part of the war debt was borrowed neither from the public nor from the joint-stock banks, but from the Bank of England. For when the Government must have money, and cannot get it at the moment in any other way, it can always have recourse to the Bank of England as a last resort. The Bank of England is the Government's banker, that

is to say, the Government keeps a checking account at the Bank of England; and the Bank of England cannot very well refuse to increase this checking account by a few million pounds if the Government asks it to do so. The effect of such action is very important, as will be readily understood by anybody who is clear about the subject of checking accounts at the Bank of England (p. 51). Suppose the Government borrows £1,000,000 from the Bank of England in order to pay a bill of £1,000,000 for ink and stationery. The Government's checking account at the Bank of England is swollen by £100,000,000 and on this checking account it draws a check for £1,000,000, which it pays to the stationer, who pays it into his bank, which pays it into its checking account at the Bank of England. The swelling has vanished from the Government's checking account, but has reappeared in that of the joint-stock bank. Now this bank, it will be remembered, treats its checking account as part of its reserves for purposes of the proportion of reserves to deposits which it feels bound to keep. Finding its reserves and deposits both swollen by £1,000,000, and the proportion of reserves to deposits therefore increased, it will see a chance, conformably with its own rules, of increasing its loans by an amount equal to several times the £1,000,000 originally borrowed by the Government; and the upward thrust given to prices will be correspondingly magnified.

This expedient of borrowing from the Bank of England by "Ways and Means Advances," as they are called, was largely used by the Government during the war for the purpose of making current purchases; and also on several occasions since the armistice in order to

find money for the repayment of Treasury Bills which the holders were unwilling to "renew," that is, of which they were demanding repayment. In so far as these Bills were held by the banks, the effect of the transaction in increasing the basis of bank loans was probably not so serious as the uninitiated might suppose, for, as already explained, those Bills themselves had already been used to increase the basis of loans. But even in such cases the substitution of a formal and avowed for a subsidiary and unacknowledged form of "cash reserve" was probably not without effect in increasing the volume of bank loans.

If we ask whether these are *necessary* results of Government borrowing from the Bank of England, the answer is not too clear. It seems to be so treated by City journalists, who expound and bewail it with a kind of mournful fatalism. But they are clearly only necessary results on the assumption that bankers are constitutionally unable or unwilling to modify, in the light of new situations and necessities, their conceptions of what constitutes a proper "reserve," and of what the relation between reserves and loans should be. To the mere outsider it seems on the face of it rather a confession of weakness that so able and public-spirited a body of men as the English bankers should have been thus enthralled by custom to a degree which would have been fatal to most of us, whether engaged on warlike or peaceful pursuits, in the vicissitudes of the last seven years. In any case, here we have a second way in which the very conservatism of bankers led them, in changed conditions, to take an active part, both in war and peace, in speeding up the creation of money.

§ 5. *Bank Loans and Treasury Notes.* If we are right in thus attributing to the increased volume of bank loans the main responsibility for the high level of prices, does it follow that the Treasury notes had nothing to do with the matter? By no means. It will be remembered that though the particular rules adopted by bankers about their "reserves" may be arbitrary, they have their roots in the very solid fact that bank money is convertible, and that since the people of this country prefer to make a considerable part of their payments in common money, a good deal of bank money is actually presented for conversion. Either the actual borrowers of additional bank loans, or those to whom they make payments, generally require to use part of their increased purchasing power for the hire of additional labor, or the making of overtime payments to their existing staffs. For this purpose they must obtain additional common money from the bank: and the bank knows that such a request for additional common money is bound to result sooner or later from the making of additional loans. Common money thus launched on the world has some direct effect in raising prices by increasing the aggregate ability of the working classes to buy goods.

Further, while the influence of additional loans manifests itself first on the wholesale prices of staple goods, by increasing the ability of the business classes to buy, it does not stop there. With greater or less speed it communicates itself to the retail prices of common things, not so much, in the first instance, by increasing the ability of buyers to buy, as by reinforcing the effect of shortage of goods in increasing the reluctance of

sellers to sell. A manufacturer who has bought yarn dear will not, if he can help it, sell cloth to tailors cheap. A wholesale merchant who has bought cheese at 30 cents a lb. will not, if he can help it, let the village grocer have it for 25 cents.

And from this process of the rise of retail prices two consequences follow. First, those who have check-books find that they require to keep on their persons a larger amount of common money—perhaps even to keep a larger proportion of their resources in the form of common money; for they must economize, if at all, in the things which are usually paid for by check, such as motor-cars. Secondly, and more important, the wage-earners make efforts to get their money wages raised to cope with the increased cost of living. During the years 1917–20, at any rate, these efforts were singularly insistent and successful: with the result not merely of a great increase in the absolute quantity of common money required each week from the banks for the payment of wages, but perhaps also of an increase in the *proportion* of the total volume of checking accounts withdrawn for this purpose.

It follows that with the best will in the world to support either British arms or British trade, the banks could not afford to forget the effect which additional loans would have in the near future on the requisitions of the business community for common money: or if they did permit themselves to forget it, the course of events soon jogged their memory. To the extent that the banks were holders of Treasury Bills, they were enabled in effect to shunt off the responsibility for finding the necessary supplies of common money on to

the Government. And to the extent to which they found their checking accounts at the Bank of England swollen as a consequence of the making of Ways and Means Advances they were enabled to shunt off the responsibility on to the Bank of England. Now the Bank of England has shown itself very accommodating in recent years about the proportion which it keeps between its reserves (which are all old-fashioned legal tender) and its deposits: but all the same it could not run the risk of being unable to fulfil its obligation of providing the banks with common money as and when they required it. So by one route or another the responsibility for finding the necessary supplies of common money came in the last resort upon the only body which *can* create common money at will—the Government. The situation then was this—that unless the Government was prepared to let the whole banking system go smash—indeed, unless it was prepared to default on its own Treasury Bills—it had to be ready to create so much common money as might be called for by any loan policy which it permitted the banking system to pursue.

§ 6. *Treasury Notes and the Price-Level.* Now therefore we see the third way in which the very conservatism of the English banking system enabled it, in changed conditions, to run riot in the manufacture of money. For any arrangement which would keep them well supplied with common money was good enough for the joint-stock banks: and any arrangement which would enable it to meet its obligations, while keeping a reserve of decent size and old-fashioned composition, was good enough for the Bank of England.

The actual arrangement [1] by which these happy results were achieved—by which Treasury Notes made their *début* into the world—is rather difficult and perhaps not very important to understand, but it is interesting as furnishing one more example of the great adaptability of the device of checking account keeping at the Bank of England. The Treasury Note Department, like so many other people, indulges in this convenient habit: and if a bank wants additional Treasury Notes, it in effect buys them by drawing a check on the Bank of England which reduces its own checking account there, and swells that of the Treasury Note Department by an equal amount. What happens next depends upon circumstances. During the war the swelling was generally transferred straight away to the Government's ordinary checking account—the Right Hand of the Government, so to speak, borrowed from its Left, using the resulting increase in its checking account to make its war purchases, and leaving the Left Hand with a bundle of promises to pay instead of a nice fat checking account of its own. But since the end of 1919 the Government has been aiming at increasing the Bank of England notes held in reserve against the Treasury notes; and in so far as this policy is pursued, it means that, as and when convenient, fragments of the Treasury Note Department's checking account are withdrawn in the shape of Bank of England notes. It seems, however, from the published figures that the old plan of Right Hand borrowing from Left is still pursued from time to time when convenience

[1] See Interim Report of Royal Commission on Currency and Exchanges, p. 5.

dictates, or the presentation of Treasury Bills for repayment compels.

We are now in a position to sum up the nature of the connection between the Treasury notes and the great rise of prices. Some Treasury notes were created to make wage advances, or other increases in the aggregate of wage payments, secured without reference to prior advances in the cost of living; and these had some direct effect in raising prices, by increasing the ability of the working-classes to buy goods. On the whole, however, it appears that the Treasury notes did not make any large contribution to the initial thrust by which each successive rise in prices was set in motion. But the knowledge, on the part of somebody, that they *could be created if necessary* was an essential condition of the expansion of bank loans which gave the initial thrust: and their actual entry into the world served to maintain a rise already achieved, by maintaining the ability of the population, and especially of the working-classes, to buy goods. Whether we endorse or reject the Bradbury theory is therefore largely a question of words. If all the parties to any monetary controversy could agree to substitute the words "essential condition" for that elusive word "cause," a good many of the points at issue between them would tend to disappear.

One word as to the statistical connection between prices and common money (including Treasury notes). Index-numbers being so treacherous and changes in the demand for money so difficult to estimate, it would be foolish to expect the figures to indicate anything very definite. But in view of the reasons given in § 5 for suspecting an increase between 1914 and 1920 in the

proportion between payments made in common money and the whole volume of payments, it might perhaps have been suspected that the expansion of common money would have been somewhat larger compared with the rise in prices than it appears to have been. Against this, however, must be set two features of the situation already explained. First, the existence, in the shape of Treasury Bills, of ripening claims to common money—the chirruping, as it were, of hosts of unborn Bradburys—encouraged the Banks to take a generous view of the proper relation between deposits and nominal "cash reserves," and so to increase the volume of bank money out of proportion to the increase in common money. Secondly, even apart from this consideration, so long as prices and wages were still rising, the *actual* volume of Treasury notes was always lagging a little behind the *potential* volume—the volume, that is, which requisitions arising out of the actual volume of bank loans were bound ultimately to bring into existence. When these considerations are borne in mind, the statistical relation between the expansion of common money and the rise in the price-level is perhaps pretty much what might have been expected.

§ 7. *Cause and Effect in Relation to Money and the Price-Level.* There is one further objection which may be brought, not only against the Bradbury theory, but against the combined bank loan and Bradbury theory just expounded. The connection between the volume of money and prices, it may be said, is established: but the sequence of cause and effect is in precisely the opposite direction from that asserted by monetary

theorists. So far from the large volume of money having been a cause of the high price-level, it was a consequence of it.

We have seen that as regards the Treasury notes, this contention possesses a large measure of truth: additional Treasury notes were chiefly called for in order to make the additional payments, especially the additional wage payments, necessitated by a previous rise of prices. But the same thing can be urged as regards bank money. If you ask any banker why the volume of his outstanding loans was so much greater in 1920 than in 1914, he will probably reply that owing to the high price-level his clients required more money in order to hire labor, purchase materials, pay for repairs and so forth on the old scale. And the reply is perfectly valid, so far as it goes. Once more let us remind ourselves that the only proximate cause of any movement in prices is a decision made by some human being or group of human beings. To some extent the movements of wholesale prices *anticipated* the actual creation of additional bank money, just as the movements of retail prices anticipated the actual creation of additional Treasury notes. Certainly this was the experience of the Government in the early days of the war, when those who had things which the Government needed put up the price-quotations forthwith, because they knew that somehow or other the Government would have to find the money.

As a rule, however, it would seem that (so far as connected with changes in the demand for goods) the decisions which raised prices were taken in consequence of an *actual* addition to the bank money in the hands of

certain persons. But if these decisions were not to be rescinded, additional bank money had to be forthcoming *for other persons also.* Let us take a concrete example in order to get this conception clear. Suppose a bank has made an additional loan of $50,000 to a shipbuilder to enable him to buy steel plates. The price of steel plates will rise; and the additional bank money created will pass from the shipbuilder to the steel-maker. From the steel-maker some of it will pass on its way successively to the ironmaster, the coal-owner, etc.; some (let us say) successively to the champagne merchant, the motor-car manufacturer, etc. But once the wave of additional money has passed by, there is nothing to prevent the price first of steel plates, then of pig-iron and champagne, then of coal and motor-cars, and so on, from falling again, unless the first wave is followed up by another. But probably it will be: for other shipbuilders, finding the price of steel plates raised against them, will have applied to their bankers for an addition to their loans; and a second train of events, similar to the first, will have been set in motion. And so the game will go on, and the higher price-level established by the first wave will be maintained by its successors.

To some extent, therefore, additional loans, like Treasury notes, can better be described as having been an *essential condition* than as having been a cause of the raised price-level. The belief that they would be forthcoming affected the decisions which were made about prices: and the fact that they did come forth enabled decisions already made to be maintained. All this is in accordance with our interpretation in

Chapter II, § 7 of the phrase "the quantity of money available." There is no reason, however, to abandon our opinion that the actual insertion by the banks of additional purchasing power into the hands of some borrower generally imparted the initial upward thrust to prices, whereas the creation of additional Treasury notes did not often do so.

CHAPTER VI

THE QUESTION OF THE STANDARD

"Would you tell me, please," said Alice, "which way I ought to go from here?"

"That depends a good deal on where you want to get to," said the Cat.

"I don't much care where," said Alice.

"Then it doesn't much matter which way you go," said the Cat.

Alice's Adventures in Wonderland.

§ 1. *The Case for a Price-Level varying inversely with Productive Power.* Having thus arrived at some understanding of the monetary position created in Britain by the war, we can go on to discuss the practical question "What ought to be done about it?" And it will be convenient once more to take as our starting-point an answer which has found favor in many and exalted quarters, and which runs, "Get back to our old gold standard as quickly as possible."

To clear the ground for a discussion of this proposal, it is necessary to return for a little to first principles, and to inquire a little more closely what, if we were perfectly free to choose, we should like our standard of value to do. It has been hitherto assumed in this book that we should like the value of money in the normal sense—its value, that is, in terms of things in general—to remain stable. That is a natural inference from the great disturbances to contract and expectation, and so

to the distribution and creation of real wealth, which follow from any violent exhibition of instability in the value of money, and which have been sufficiently emphasized in the first chapter of this book. But it is not a self-evident inference: there are at least two other plausible theories of the manner in which, if we had a free hand in the matter, we ought to require the value of money to behave.

The first of these points out that the real cost, in human effort and inconvenience, of producing marketable goods does not remain constant from generation to generation, or even from year to year. There are three deep-seated tendencies in human affairs which operate in modifying these real costs, the first in one direction, the other two in the other. First, the progress of invention and scientific research, of commercial and industrial organization, of the systematic exploitation of new sources of supply, is continually operating to increase the command of man over nature, and to reduce the real cost at which goods are supplied. During the last half, and especially the last quarter, of the nineteenth century, this tendency was working almost unchecked. But, secondly, the growth of population, the limits which are set to the cultivable area of the earth and to the alacrity with which nature responds to the attentions of man, the degree to which the world is still condemned to live on its capital stores of energy (in the form of coal and oil) as contrasted with its current income—all these exert an intermittent but perhaps for the present a gradually increasing pressure in the opposite direction. Thirdly, we cannot ignore the tendency of the nations of men to demolish, from time

to time, their capital accumulations and their achievements of organization by the waging of Wars and the elaboration of Peaces, and so to raise the real cost at which goods are forthcoming.

These high matters must receive much further discussion in a future volume: at present we are concerned with them only in so far as they bear on monetary theory. To some extent, it is argued, the operation of these tendencies is foreseen and allowed for in the making of money contracts. A man who consents to receive $500 next year, or $25 a year for ever, or whatever it may be, has made his own estimate of what changes in the productivity of human effort, and consequently in the value of money, the future will bring forth. And further, in so far as he has not done so, or in so far as his estimates are falsified by events, it is desirable that his expectations should *not* be exactly fulfilled, but that he should receive either more or less real stuff than he expected, in accordance with any unforeseen expansion or shrinkage that may take place in the productivity of human effort.

There is clearly a great deal to be said for this view. Supposing for instance

> The world's great age begins anew
> The golden years return,
> The earth doth like a snake renew
> Her winter weeds outworn:

supposing that man continues to advance from triumph to triumph in his struggle with nature: would it not be desirable that those whose money incomes are relatively fixed by law or custom, and who are not as a rule the most self-assertive members of the community, should

receive automatically a share in the fruits of progress in the form of falling prices, even though they had no definite expectation of doing so? [1] Again, would it not be desirable that the wage-earners, though they may have proved their capacity for securing by some means or other a share of any booty that is going, should be enabled to do so without having recourse to perpetual demands for a rise in money wages—demands which, whether or not they involve actual stoppages of work, certainly embitter human relations and devour the energies of constructive leadership?

Supposing, on the other hand, that the world should fail to solve the problem of mechanical power, or that the Great War should prove to have been but the first of a series of disastrous explosions, can it be maintained that those with fixed incomes should be allowed, as would happen if prices were kept stable, to absorb always the same absolute amount, and consequently a greater proportionate amount, of society's real income of goods and services? "I'll have my bond, speak not against my bond"—is that a plea which should be listened to from debenture-holder or Trade Unionist in a country shivering for lack of fuel or impoverished by chronic warfare?

It is on such grounds that a case can be made out for a standard of value which should remain stable not in terms of goods in general, but in terms of productive power. If population were to remain stationary, such a standard would be roughly attained by keeping constant the quantity of money available, and allowing

[1] Cf. Marshall, Evidence before Gold and Silver Commission, C. 5512–2, Qq 9816 ff.

variations in the output of goods to exercise what effect they chose upon the price-level. But since in fact population increases, it would be necessary each year to add to the flow of money sufficiently to make prices rise somewhat more, or fall somewhat less, than they would otherwise have done; and so remind us that whether we are sharing a *bakshish* issue or an emergency reserve, our individual portion depends upon our ration-strength.

From the standpoint of social justice and harmony—even from the standpoint of theoretical simplicity of working—we should be strongly inclined to accept this solution. And even if we decide on other grounds that the price-level should normally be kept stable, we shall probably admit either that an exception ought to be made, or else that money contracts ought to be subject to drastic revision, in the event of any exceptional alteration in human productivity, such as might be occasioned by the harnessing of radio-activity or a hundred years' war. But before committing ourselves more deeply than that, we had better consider another theory of the way in which the level of prices ought to behave.

§ 2. *The Case for a Gently Rising Price-Level.* To this end we must remind the reader of certain scattered reflections earlier in this book, which have so far been left suspended somewhat in air, but which will now be seen to have touched on a matter of great importance. In Chapter I (p. 12) it was hinted that a rise in prices, so long as it does not attract too much attention, still tends on the whole to operate to the advantage of those who plan and control the working of our industrial

system. In Chapter II (p. 33) it was admitted that an increase in the supply of money might conceivably itself bring about an increase in the demand for money, that is in the supply of goods. In Chapter IV (p. 90) it was pointed out that ordinary additional bank loans justify themselves to some extent by adding ultimately to the flow of goods. In Chapter V (p. 109) it was asserted that additional bank loans are generally utilized partly for the hire of additional labor or the making of overtime payments to existing staffs.

Let us see if we cannot group together these isolated remarks into one generalization. Surely we can, and it is this. A progressive increase in the supply of money and rise in the price-level, so long as it is not so blatant as to generate social disorder or sap the foundations of contract, by adding to the money demand for goods stimulates also the production of goods: by benefiting the pockets of the controllers of industry, stimulates also their energies and activities: by putting facilities into the hands of those who feel confidence in themselves, adds something to the effective brain-power mobilized in the service of industry. And this fillip to production, by adding to the flow of goods, serves to moderate the very rise in prices which gives its birth.

There is no reason to doubt that all this is true. For anyone who prides himself on being a "sound money" man, or is in receipt of a fixed money income, or is interested in schemes for the ideal apportionment of the fruits of industrial progress, it is convenient to forget it: but it is true all the same. A gently rising price-level pleases the business men; and the business men are in the saddle, and hold the reins of industry.

The "more money" enthusiasts of the business world know, within limits, what they are about. The battle in which we defeated them in Chapter IV was fought on ground of our own choosing—the ground that the level of prices must be kept stable. But what if they say that they do not see the necessity, and that they would prefer that prices should rise? We are in their hands: they are in charge of production. Nor, they may fairly urge, is this a purely selfish preference on their part, designed in the exclusive interests of "profiteers." Is it not rising prices that empty the workhouses and the employment exchange registers, and fill the factories and the shipyards? And is it not better that all should be busy, even though grumbling at the cost of living, than that some should be living cheaply and others left on the streets?

Of course the stimulus of rising prices is partly founded in illusion. The salaried official and the Trade Unionist have been beguiled into accepting employment for a lower real reward than they intended. Even the business leader is the victim of illusion: for he is spurred on not only by real gains at the expense of his debenture-holders and his doctor and even (with a little luck) of his workpeople, but also by imaginary gains at the expense of his fellow business men. It is so hard at first to believe that other people will really have the effrontery or the good fortune to raise their charges as much as he has raised his own. But whether real or illusory, the spur is effective; for in economic as in other matters human endeavor feeds partly on illusion, and only partly on truth. That is why so much of the criticism leveled at the war finance of Governments

falls wide of the mark. War-lords know more about morale than "sound money" men do: it is their business.

And if conjuring tricks are indispensable in war, are we so sure that we can do without them in peace? Has any class in the last two or three years shown itself so responsive to the stimulus of naked truth? So long as the control of production is in the hands of a minority, rewarded by means of a fluctuating profit, it is not impossible that a gently rising price-level will in fact produce the best attainable results, not only for them but for the community as a whole. And it is tolerably certain that a price-level continually falling, even for the best of reasons, would prove deficient in those stimuli upon which modern society, whether wisely or not, has hitherto chiefly relied for keeping its members in full employment and getting its work done.

§ 3. *The Case against the Gold Standard.* On the whole, if we were perfectly free to choose, we should perhaps stick fairly closely to our original decision to keep the price-level stable. But we should be prepared either to suspend our decision, or to compel the overhauling of money contracts, in exceptional circumstances: and so long at any rate as we preserved the system variously known as Private Enterprise and Wage Slavery, we should not refuse to wink at a little judicious use of the money-pump, if the tires of industry seemed to be sagging unduly.

Now let us return to practical politics, and see whether a gold standard offers any certain prospect of guiding our course, either in our chosen *via media*, or

in any other of the paths proposed. The answer must surely be that it does not. That the gold standard did not keep prices stable in the century before the war needs no arguing: here are the approximate figures.[1] Between 1821–5 and 1846–50 prices in England fell 25 per cent: between 1846–50 and 1871–5 they rose 20 per cent: between 1871–5 and 1894–8 they fell 40 per cent: between 1894–8 and 1909–13 they rose 30 per cent. That the gold standard provided on the whole a healthy stimulus to industry in the second of these periods is probably true, but largely fortuitous and due to unforeseen happenings both in California and Australia and in the banking world of London. That by permitting a great fall in prices it reflected the great increase in the world's productivity in the third period is also true, but again partly fortuitous: and let us not forget the great agricultural decline, and the unemployment and labor ferment of the 'eighties.

On the great fall in the value of gold between 1914 and 1920 it would not be fair to lay too much stress, any more than on any of the other economic phenomena of the war. It is possible that if a number of countries now on a paper standard found themselves in a position to re-acquire hoards of gold, and decided to do so, a scramble for gold would ensue which would violently and permanently raise its value to something like the pre-war level. Indeed there are some well-informed people who fear a serious world-shortage of gold at no remote date. In spite of the great fall in gold prices which began in 1920, the present writer finds it difficult

[1] Layton, *Introduction to the Study of Prices*, p. 23 (carried on to 1909–13).

to share these apprehensions. Even countries which go back to a gold standard are not likely—we are not likely ourselves—to go back to the use of gold money for ordinary purposes. All countries in future will probably make their gold go further than it did before the war, by sticking to some of the methods which they have excogitated for economizing its use.

As regards the more remote future, the question is equally uncertain, and prophecy useless. The writer can only record his bias in favor of the conjecture that the additions made to the world's stock of gold, together with the spread of devices for making a little gold go a long way, will on the whole outweigh the growth of the world's productivity, the anxiety of the nations of the world to attain or restore a gold standard, and the progress of dental degeneration and the desire for personal adornment. In that event there would be a progressive fall in the value of gold. Nor can we dismiss the possibility that the spread of education and the industrial revolution in India and the East generally may lead to a change in the habits of the Eastern peasant, who has hitherto tended to regard the wearing or burying of the precious metals as the only reputable form of saving—even to a vomiting forth of some of the vast supplies of gold which have been swallowed up for this purpose throughout the course of history.

In any case the very uncertainty of the future of gold prices establishes the point. It is difficult to regard as very stable or sacred a standard of value which is liable to be upset by the discovery of new mines or processes of mining, by a decision on the part of some South American state to achieve the gold standard or of

some European state to abandon it, by a sloughing off of the hereditary taboos of the Indian ryot or the London banker. It is true that—apart altogether from the effects on gold-production—there are checks and limits to the variability of the value of gold. If the value of gold fell considerably, more would be consumed industrially; and, further, some countries which would otherwise not have tried to acquire a gold standard would perhaps make the attempt. If the value of gold rose considerably, less would be consumed industrially; and, further, some countries which would otherwise have clung to the luxury of a gold standard would perhaps surrender it. In either case forces tending to counteract the original movement would be set in motion. Nevertheless the value of a yellow metal, originally chosen as money because it tickled the fancy of savages, is clearly a chancy and irrelevant thing on which to base the value of our money and the stability of our industrial system.[1]

§ 4. *The Case for the Gold Standard.* Cannot we then devise a better way? Having made so much progress in the manipulation of token money, cannot we make a little more? We could not abolish banking and note-issuing even if we wished to: cannot we learn to control them on a scientific basis? It is no wonder that not only "more money" enthusiasts but sober and academic philosophers should cry out against the artificiality and irrelevance of the gold standard, and propose that whatever the precise end which we wish to achieve, it should be achieved by means of a conscious and

[1] Cf. Keynes, *Indian Currency and Finance*, p. 101.

deliberate regulation of the supply of money. For such a purpose pieces of money which would be worthless in any other than a monetary use are positively preferable to any other; both because they cost next to nothing to produce, and because there is therefore no danger that their value will ever come to fall short of that of the material of which they are composed (as even that of the rupee, for instance, has been known to do), and so lead private persons to flout the intentions and upset the calculations of the regulating authority by withdrawing them from circulation. With such a money the price-level could be kept approximately stable (supposing that to be our aim) if whenever it showed signs of falling, the regulating authority injected money into circulation, and whenever it showed signs of rising, the regulating authority found some means or other to withdraw money from circulation.

In passing judgment upon any such ideal scheme, there are certain practical considerations which must be borne in mind. We must remember the enormous impetus to which any banking-system is subject, both from within and without, towards increasing continually the volume of its loans, as well as the formidable difficulty of so regulating the supply of money as really "to meet the needs of trade." We must remember, too, the pressure exerted upon Government in the name of "the consumer" to provide this and that—coal or railway-transport or house-room—by some means or other below its economic cost. It is not surprising if both bankers and Governments in their more responsible moments desire to have some charm more potent than a mere metaphysical index-number both to elevate

before the people and to contemplate in the privacy of their own cells. There are the same arguments against disturbing the simple faith of the banker and the City journalist (the politician perhaps has none) as against disturbing that of the pious savage. If a gold standard had never existed, it might be necessary to invent something of the kind for their benefit.

It is said that there was once a mine manager in Johannesburg who had a glass eye. When business called him away he would take his eye out and leave it in a prominent place; and while the master's eye was on them the workmen continued to work like blacks, as indeed they were. But one day one of the workmen, more daring than the rest, stealthily approached the all-seeing orb and covered it up with an inverted cigarette tin: whereupon he and all his fellows promptly went away and got drunk. Which is a parable of what might happen if all semblance of a gold standard were obliterated.

Here is another parable which has, apparently, the merit of being true.[1] There is among the Caroline Islands an island called Uap, whose money consists solely of huge stones called *fei*, many of them so large that they cannot be moved, so that even when they change hands in the course of business their physical location is left unchanged. In fact, the richest family in the island holds that position in virtue of being the owner of a huge stone, which was accidentally sunk from a raft while it was being brought to the island many years ago. For several generations this stone

[1] Furness, *Island of Stone Money*, Chap. VII, quoted in *Economic Journal*, June, 1915, p. 281.

has been lying at the bottom of the sea, and none of the present generation of the family has ever seen it; but nobody questions that they are the richest family in the island. Some time ago the natives allowed the roads of the island to fall into disrepair, and steadily refused to mend them; and the Germans, who were at that time in possession of the island, had to devise some means of inflicting a fine. It was clearly useless to attempt to remove any of the stones from the island. "At last," so the account runs, "by a happy thought the fine was exacted by sending a man to every *failu* and *pabai* throughout the disobedient districts, where he simply marked a certain number of the most valuable *fei* with a cross in black paint to show that the stones were claimed by the Government. This instantly worked like a charm; the people, thus dolefully impoverished, turned to and repaired the highways to such good effect from one end of the island to the other that they are now like park drives. Then the Government despatched its agents and erased the crosses. Presto! the fine was paid, the happy *failus* resumed possession of their capital stock, and rolled in wealth." Just so gold is a fetish, if you will, but it does the trick.

§ 5. *An Improved Standard.* There is indeed an intermediate cause. Suppose we can so arrange things that the regulation of the money supply, in accordance with the movements of an index-number of general prices, does not require any exercise of initiative or discretion on the part of the regulating authority, but is effected automatically by a section of the business community,

acting from ordinary economic motives. And suppose that the operation by which this is achieved is nothing else than the buying and selling of that very commodity, gold, whose custody is so easy to arrange and has such a sobering effect on men's minds. Shall we not then have secured the best of both worlds?

This is the plan which, elaborated by the genius of Professor Irving Fisher,[1] was finding increasing favor in thoughtful circles before the war. The suggestion in its essential outlines is as follows: The country's whole money supply would be composed of token money; but the Government would be at all times under obligation to give gold in exchange for money and money in exchange for gold. The rate of exchange, however, between money and gold—the official price of gold—would not be invariable (as under a gold standard), nor would it be identical with the market price of gold at the moment. It would vary with an index-number of general prices in accordance with a definite published schedule, and in such a way as to fall below the market price of gold as general prices rose and rise above the market price of gold as general prices fell. Consequently when prices were rising, people would have inducement to come to the Government and buy gold (for export or industrial uses), and so a certain amount of vagrant money would be imprisoned and the rise in prices checked. And when prices were falling, people would have inducement to bring gold to sell to the Government, and so a certain amount of money would be released from prison and help to send prices up again.

[1] *Purchasing Power of Money*, Chap. XIII, and subsequent works.

Now it is not pretended that this is an absolutely impeccable plan. It would be difficult—indeed impossible—to contrive a sliding-scale of movements in the official price of gold whose operation should in all circumstances exactly and immediately counteract any movement in the price-level. Further, the very rigidity of the sliding-scale, which is one of the essential safeguards of the scheme, would prevent impromptu action in cases where it might be valuable, and would oppose obstacles to any reconsideration, in special circumstances, of the question whether prices *ought to be* kept stable. But for all that the plan seems to have very great advantages both over more idealistic schemes and over a gold standard. For it makes full use of the undoubted virtues of Gold as a handy person to have about the house, and a good influence on its inmates: and at the same time it treats him as a servant, and not as master.

Perhaps in this as in some other respects the year 1919 was the year of lost opportunities. Perhaps in those heroic days, when men's minds were impressed with the strangeness of the situation in which they found themselves and of the chances which it offered for the building of a new world, it might have been possible to take this definite step along with others towards acquiring control of the material forces before which humanity suffers itself to be driven as before the wind. But with every month that passes it becomes more difficult. Baffled and bewildered and disillusioned with the new world, the business community seeks increasingly to recapture the comparative stability and peace of the world before the war. It may be

that its quest is vain, and that heroic action in more directions than one will yet be forced upon it. Meanwhile there is so much happening in any case to fray its nerves and excite its suspicions that it looks as though we should have to refrain at present from upsetting it still further by pressing upon its notice even so sensible a proposal as Professor Fisher's. His time, it is to be hoped, will come. Meanwhile, if we are asked whether we should like to go back to a gold standard, we shall perhaps reply: "On the whole, yes: not because it is a good standard, not because there are not better available, but because it is better than no standard at all, which is in practice at present the most likely alternative."

CHAPTER VII

THE FOREIGN EXCHANGES

The Caterpillar was the first to speak.
"What size do you want to be?" it asked.
"Oh, I'm not particular as to size," Alice hastily replied; "only one doesn't like changing so often, you know."
Alice's Adventures in Wonderland.

§ 1. *The Normal Rates of Exchange.* There is, however, a further argument for restoring a gold standard in Britain. If Britain were self-sufficing and isolated from the rest of the world she might adopt what ideal standard she chose, and bid the world go hang. But in fact she is more dependent than most countries on buying abroad foodstuffs and raw materials, which have to be paid for in foreign money, and on selling abroad the products of her industry, for which payment has to be accepted in foreign money. All her inhabitants, therefore, whether they know it or not, are inevitably interested in that thorny subject called "the foreign exchanges," that is to say in the behavior of the value of their own money in terms of the moneys of other countries. It is necessary accordingly at this point to inquire how that behavior is determined at present, and how it might be determined under other conditions.

Let us examine, then, the case of two countries, say the United States and Utopia, whose inhabitants are in business communication, the former reckoning in

terms of dollars, the latter in terms of—shall we say?—utopes. If the plain man cries out at this academic trick, and urges that there are quite enough real countries in the world to-day without inventing more, we can only reply that it is done deliberately and of malice aforethought. If we were to take some real country, France for instance, it might be difficult for us to rid our minds of a preconceived idea that a dollar *ought to be* worth 5 francs; and in that case our heads would be muddled from the start.

Let us take, then, the United States and Utopia; and let us suppose for the moment (*pace* the plain man) that there is only a mathematical line between them, and that neither imposes import or export duties. What then determines the value, in terms of one another, of their respective moneys—the rate of exchange, as it is called, between dollars and utopes? [1]

This raises the preliminary question, how does it come about that either money has any value in terms of the other, that dollars are quoted at all in terms of utopes or vice versa? The answer is that since the inhabitants of the two countries are in business communication, there will be some Utopians who have claims to American money and desire to dispose of them for Utopian money, and other Utopians who desire to obtain such claims in exchange for Utopian money. The former class will include those who have sent goods to America and sold them there, or have rendered other

[1] On the subject-matter of the following sections, see Cassel, *Memorandum for Brussels Conference*, and articles in *Economic Journal*, March, 1916, September, 1916, December, 1918, and December, 1919.

services to residents in America or are receiving interest payments on capital invested in [redacted] in previous years. The latter class will include those who have ordered goods in America for which they have to pay, or have availed themselves in other ways of the services of Americans or find themselves obliged to remit interest on capital originally borrowed in America or desire to invest their savings in America. There will of course be Americans too who desire, for corresponding reasons, to dispose of or to obtain Utopian money: but we can simplify matters (and not depart far from the conditions of the actual world) by supposing at present that all the dealings (whether between Utopians or Americans) are in claims to American money, and that they all take place in Utopia, where these *claims* to American money are bought and sold for *actual* Utopian money.

Now we can return to our main question—what determines the rate of exchange between dollars and utopes? As a first approximation to a truthful answer we can lay down that its normal level is determined by the relative prices, in the moneys of the two countries, of the things which enter into trade between them. Supposing, for instance, a cwt. of wheat costs $5 in America and 25 utopes in Utopia, the rate of exchange will tend to settle at 5 utopes to the dollar. And the reason is as follows: Supposing at any time people could obtain, say, 6 utopes for a dollar they would spend 25 utopes on buying a cwt. of wheat in Utopia, sell the wheat for $5 in America, dispose of that $5 for 30 utopes, and so make a profit of 5 utopes. Supposing, on the other hand, it only takes 4 utopes to buy a dollar,

then people will devote 20 utopes to procuring $5, with that $5 buy a cwt. of wheat in America, sell the wheat for 25 utopes in Utopia, and thus again make a profit of 5 utopes. And in either case so many people will engage in similar transactions as in the first case to drive down, in the second case to force up, the price of dollars till it reaches the old level of 5 utopes. Thus our proposition is established, that the rate of exchange between two countries with independent money-systems tends to measure the relative purchasing power of the moneys of the two countries over those goods which are the subject of trade between them. And this correspondence is brought about not by any mysterious kind of "action at a distance," but by the natural effects of temporary deviations from the normal rate of exchange on the minds and actions of traders.

It remains to add that the rate of exchange may at any time diverge from this normal level within limits depending on the amount of the transport charges and duties (if any) on those goods most likely to be transported between the two countries. Suppose for instance the cost of sending a cwt. of wheat from Utopia to America is 5 utopes, the rate of exchange might reach 6 utopes to the dollar without making it worth while to buy wheat in Utopia and sell it in America. And suppose that the cost of bringing a cwt. of wheat from America to Utopia is $1.25, the rate of exchange might reach 4 utopes to the dollar without making it worth while to buy wheat in America and sell it in Utopia.

§ 2. *Price Movements and the Exchanges.* Now let us forget about the cost of transport again and see how the normal level of exchange may be altered. Suppose

that Utopia greatly increases its supply of money. Then, broadly speaking, what happens is this. The price-level doubles, let us say, in Utopia: it therefore becomes profitable to procure $5 for 25 utopes, buy a cwt. of wheat in America and sell it in Utopia for 50 utopes, thereby making a gain of 100 per cent. But so many people naturally indulge in this lucrative operation that the demand for dollars, in terms of utopes, is greatly increased, until finally the dollar exchanges for twice as many utopes as before. While this process of adjustment is going on there is a stream of goods flowing from America to Utopia, and a consequent tendency to a slight rise of prices in America and a slight fall in Utopia: but as soon as the appropriate rate of exchange is reached, this "premium on export" from America vanishes. The new rate of 10 utopes to the dollar is a "normal" or equilibrium rate, and is maintained by exactly the same forces as maintained the old rate.

Now speaking very broadly this is what happened with the world's exchanges during and after the war. The countries of the world expanded their supplies of money in different degrees, their price-levels rose in roughly corresponding degrees, and their rates of exchange with one another (so far or so soon as free from Government manipulation) altered in roughly corresponding degrees. Here are some figures of the comparative alteration in prices and exchanges for some important countries between 1913 and May, 1920: [1]

[1] *Memorandum for Brussels Conference*, No. III, pp. 41 ff., and 28–29, supplemented by Supreme Council Bulletin of Official Statistics.

	Price-Level.	*Exchange.*
United States	100	100
France	203	247
Italy	242	325
United Kingdom	112.5	124
Sweden	133	125
Canada	97	112
Japan	100	97
Germany	572	903
Netherlands	95	110
Norway	147	146

The first column of this table means that if the proportion which the wholesale price-level in the United States in May, 1920, bore to the wholesale price-level in the United States in 1913 is called 100, then the proportion which the wholesale price-level in France in May, 1920, bore to the wholesale price-level in France in 1913 becomes 203, and so forth.[1] The second column means that in May, 1920, the American dollar cost in terms of French francs 247 per cent, in terms of Italian lire 325 per cent, and so forth, of what it cost in 1913.

These figures must not be taken too seriously. First, index-numbers of prices are arbitrary things, and the use of other index-numbers would have shown different results. Secondly, index-numbers at best refer to commodities in general, and not specially to those which are the subject of international trade; and it is only the

[1] For the Netherlands and Norway, the figures are based on the change in the retail prices of food since 1914, as compared with the corresponding change in the United States. For Germany also the comparison is with 1914, but the prices are wholesale.

price movements of the latter which we should expect to correspond closely to the movements of the exchanges. (This is specially relevant where home prices have been kept artificially low by Government subsidies or regulation; and particularly in those cases where we have to use the retail prices of food, which are very unsatisfactory for our purpose, both because they are tinkered about by Governments, and because they include a reward for the service of shop-keeping, which is not easily transported from one country to another.) Thirdly, the correspondence is closer in the month in question than in others which might have been selected. Fourthly, the selection of another country (say the United Kingdom) as "base" would make the correspondence closer for some of the remaining countries, and less close for others. Nevertheless the figures are good enough both to illustrate the general normal relation between price-levels and exchanges, and also to draw our attention to certain manifestly abnormal cases, of which Germany is the most conspicuous. In order to see how such abnormal cases may arise, let us return for a little to Utopia.

§ 3. *Other Influences on the Exchanges.* Suppose that Utopia greatly increases its money supply as before, and that its price-level doubles as before, but that obstacles are put in the way of exporting goods from America. Then the means by which adjustment was reached in the former case is no longer available. It is no longer possible to buy goods in America and sell them in Utopia, and there is therefore no motive impelling people to bid up the dollar until the relation between

dollars and utopes reaches a new equilibrium. In this case then, in spite of an alteration in relative price-levels, there is no alteration in the rate of exchange. This case was illustrated by Sweden during the war. In Sweden there was a great increase in the supply of money and a great rise in the price-level due to the influx of gold (p. 101). But under war conditions there were no facilities for importing goods from England to take advantage of the raised Swedish prices, so that there was no increase in the number of Swedish crowns clamoring to be changed into English pounds in order to buy goods in England: the rate of exchange therefore did not alter in favor of the pound.

A similar result could be achieved by any country which deliberately prohibited or restricted the importation of foreign goods. By such means a country, if it thought it worth while, could more or less completely divorce the movements of its price-level from the movements of its exchanges, and could allow its home price-level to go on rising without causing the value of its money, in terms of foreign moneys, to fall. But since foreign money is chiefly required for the very purpose of purchasing imports, a wholesale policy of this kind would clearly mean the sacrifice of the end to the means. It might, however, under certain conditions be worth while by partial prohibitions thus to keep the price of foreign money artificially low, in order to obtain certain selected imports, or to repay a debt that was falling due, on favorable terms. It looked early in 1920 as though France intended to adopt this policy, but it does not seem to have been seriously pursued.

Now for another special case. Suppose that Utopia

greatly increases its money supply as before, but that owing to friction or Government action in control of prices there is no great or immediate corresponding rise in the price-level. In this case there will be no considerable effect on the exchange through a swarm of goods being sent into Utopia to take advantage of the raised prices: for we are supposing that prices have not risen very much. But it does not follow that the exchange will not turn heavily against Utopia. For the Utopians may have lost confidence in their own money, or even in the economic future of their own country. Or they may, in consequence of dearth at home, be determined to put obstacles in the way of export of goods and nevertheless by some means or other to secure the imports necessary to support life and to stave off political revolution. Or, again, in spite of their Government's efforts to prevent it, some of their number may manage to get into the country luxurious goods which have to be paid for. For all these reasons they may become desperately anxious to secure claims on American money—indeed they may have increased their own money supply for the express purpose of doing so. And this desperate anxiety of theirs will turn the exchanges against them to an extent out of proportion to the expansion of their own money supply, and still more out of proportion to the rise in their price-level.

Now this is a pretty exact account of the exchange position of Germany in the eighteen months after the armistice, with regard not only to America but to the whole Western world. The German Government was anxious to prevent an immense rise of prices at home,

for fear of its political reaction on Labor; for the same reason it was anxious to obtain food-stuffs at any cost, while it was also anxious to prevent Germany selling herself up by exporting everything she could lay hands on. At the same time it was hampered by the stream of luxury imports through the "hole in the west"—the territory occupied by the Entente armies—and by the efforts of German capitalists to smuggle their capital abroad through fear of indemnities and taxation. For these reasons German prices did not rise in full proportion to the expansion of the supply of German money, while the value of the mark in terms of foreign moneys fell out of all proportion to both.

We have taken the case of Germany, because it is a perfect storehouse of exceptional forces operating on the exchanges. But some of the above factors were at work in the case of France and Italy also, and help to explain why the English and American exchanges turned so much more against them than the movements of their price-levels would seem to warrant. If Utopians must get hold of English money in order to pay for English goods or meet other obligations in England; and if they cannot get it by selling goods and services which Englishmen want: then the urgency of their need is bound to be reflected in a progressive fall of the sterling value of the utope—its value, that is, in terms of pounds.

§ 4. *Some Fallacies about Exchange.* Let us pause for a moment to examine, in the light of this account, some misunderstandings which are still rather prevalent on this subject of the foreign exchanges. People sometimes

speak as though there were some natural and inevitable tendency for the exchanges to get back sooner or later to their pre-war level. We see now that this is not so. The future of the exchanges may be obscured and deflected by borrowings and repayments, by war alarms and speculative *coups*: but it will depend in the long run on the price-level which each country establishes—that is to say roughly on the relation which each country contrives to maintain between the creation of money and the output of goods. None of us can tell exactly what that will be in any particular case: but it is very unlikely, to put it mildly, that the Austrian crown or the German mark will ever in our lifetime be worth as much in dollars, or even in pounds, as it was before the war.

Again, people sometimes talk as though the fact that the exchanges are more unfavorable to a particular country than they were before the war proves that that country is still getting behindhand with its payments to its neighbors. This is not true either. It is true that if England is getting behindhand with her payments to the United States, that fact will be reflected in a *falling* "dollar-value" of the pound: but the mere fact that the "dollar-value" of the pound is *low* compared to what it was in 1914 is no proof that such a thing is happening, and as a matter of fact at present there is no reason to think that it is.

Finally, people sometimes speak as though a country which *is* getting behindhand with its payments to its neighbors can somehow manage to get square, provided it is willing to see the exchanges turn sufficiently against itself. This is also untrue.[1] Suppose, for in-

[1] Cf. Bickerdike, *Economic Journal*, March, 1920.

stance, the rate of exchange between Utopia and America is 5 utopes to the dollar: and suppose people in Utopia simply must acquire claims to $1,000,000 in America in a particular week in order to pay for goods, etc., which they have bought: and suppose that the claims to dollars arising out of the sale of Utopian goods, etc., in America and available for purchase in Utopia amount only to $750,000. Competition to obtain this $750,000 will drive down the dollar value of the utope; but however many utopes the people in Utopia offer for the $750,000 available, they will still have to raise somehow or other a loan of $250,000 in America in order to meet their obligations there. There is indeed one way out of the immediate difficulty. The Utopians may actually send Utopian money to America in the expectation of finding speculators there who will buy it outright for dollars in the hope of an ultimate rise in its dollar value. But even if this expedient is adopted, the fall in the dollar value of the utope does not *automatically* produce equilibrium. Whatever the rate of exchange, equilibrium of any kind is only reached provided that owners of dollars are ultimately willing at that rate to part with them for utopes. And the more the rate of exchange turns against Utopia, the larger the number of utopes that must be exported in order to obtain the means of discharging a given debt in dollars. If there is little disposition in America either to lend to the Utopians or to speculate in utopes, there is no limit to the extent to which the rate of exchange might fall; and the lower it fell, the greater the magnitude, reckoned in Utopian money, of the default of the Utopians.

This expedient of actually selling its money abroad at a very unfavorable rate has been largely adopted by Germany. Thanks to it Germany was able to effect the aims mentioned in the last section—but only because there were people who were willing at the very low rate established to speculate in marks. And from the point of view of the German nation, though not of course of individual Germans, this mass of German money in foreign hands is scarcely less of a menace than an equivalent mass of ordinary promises to pay.

It must not therefore be supposed that by submitting to an unfavorable exchange a country can, as it were, make terms with fate and earn the right to be extravagant. A falling exchange is not a kind of magical composition-fee for enabling a nation to spend too much without getting into debt.

§ 5. *Exchange under an International Token Money.* So much for the way in which the foreign exchanges are adjusted at present, when every country has its own independent money-system. Now let us see how they might be adjusted under other conditions. Suppose, first, that each country had a token standard money, regulated in accordance with an index-number, as suggested in Chapter VI, § 4. Then apart from abnormal borrowings and lendings we should not expect to find violent alterations in the rates of exchange: we should be concerned only with small dislocations. Supposing, for instance, the price-level in England had risen slightly, while that in Utopia had fallen slightly; then there would be a flow of goods from Utopia to England, to take advantage of the higher prices, and

the rate of exchange would turn against England. But that same flow of goods, by making goods scarcer and dearer in Utopia, and more plentiful and cheaper in England, would help to correct the discrepancy in the price-levels, which the two Governments would also presumably be attempting to correct by other means: and the rate of exchange would settle down again to its old level.

It has, however, been suggested that if civilization could advance so far, it could go one step further, and introduce an international token money for the making of all payments between the members of different nations. If this international money were also the standard money of each country, the rates of exchange would be settled in the simplest and (for the economic student at any rate) the most satisfactory manner—by abolishing them altogether. But it would not be necessary to go quite so far as that. Each country might continue to retain its own standard money for internal purposes, and use the international money only for payments made or received abroad. The responsibility for keeping the value of the international money stable in terms of things in general would then fall upon the International Authority which issued it; and the duty of each National Authority would be confined to keeping the value of its national money stable in terms of the international money. This it would do by buying the international money at a fixed rate from those of its citizens who had received payments from abroad, and selling it at the same rate to those who had payments abroad to make; though in case of any great dislocation it might find it necessary to vary the rates somewhat in either direction. It would know that if it al-

lowed too much national money to get about, so that its price-level outstripped those of other countries, there would be a flow of goods into its country, and a call for international money to pay for them with; and since it could not get unlimited supplies of international money, it would have to walk carefully. Further, if the contingency actually happened, it would of course only let its citizens have international money if they paid for it in national money; and it would thus mop up some of the supplies of national money which were causing the trouble in the price-level. Under such a system, then, all dealings between the citizens of different countries would be conducted in international money; and while "rates of exchange" would not vanish altogether, for each national money would have a definite value in terms of the international money, they would be kept all but absolutely stable.

But who is the International Authority to be, and on what principles is it to dole out international money? Alas! that is where the difficulties begin. As to the first point, here is a thorny and thankless task indeed with which to saddle an adolescent League of Nations. As to the second, an obvious suggestion is that the International Authority should regulate the supply of international money by dealing in gold, on the same sort of lines as those laid down for the national authority in Professor Fisher's scheme. But unfortunately if this plan were adopted at present, some countries would find great difficulty in obtaining international money, since they have no appreciable stores of gold which they could use for the purpose. There remain various other alternatives. The International Authority might issue

its money in exchange for goods: but in that case it would become a kind of glorified but embarrassed shop. Or it might issue it in exchange for the various kinds of national money: but in that case there would be nothing to prevent any country creating unlimited supplies of national money in order to obtain international money with them. It seems as if the only way the International Authority could retain real control over the supplies of international money would be by issuing it on loan, and varying the amount of its loans in accordance with the movements of general prices.

And in fact it would appear that proposals for an international money generally resolve themselves into devices for facilitating a new form of loan. Now nobody need deny that the making of loans—whether private, governmental, or international—has its place among the measures needed to restore economic stability and prosperity to an impoverished and dislocated world. But the framing of a wise loan policy is a difficult task which must be tackled on its merits, and which is not likely to be made easier by becoming entangled with sweeping projects of monetary reform. While we are so far from having set up an effective international authority, and while there are so many unhappy nations on the look-out for a new way to pay old debts, it seems likely that proposals for an international token standard money will have to wait for a season.

§ 6. *Exchange under a Gold Standard.* It will not have escaped those who are old enough to remember the year 1914 that some of the advantages claimed for an international token standard money would be attained also

under a gold standard. Each country adhering to a gold standard would keep in effect a stock of international money, which though not stable in value would be readily acceptable in all the other countries at a known rate. If the price-level rose faster, or fell slower, in England (say) than in other countries, goods would be sent to England, and gold (in the absence of sufficient other means) would be sent out to pay for them. The price-levels would thus be readjusted, and there would be no fluctuation in the exchange beyond the moderate amount occasioned by the natural reluctance of people to go to the trouble and expense of sending gold across the sea if they could meet their obligations by other means.

In point of fact, it would probably not even be necessary for goods to flow to England. To understand this, we must glance for a moment at a subject on which more will have to be said in the next chapter, namely, the actual method by which English bankers normally enforce the decisions at which they arrive about the volume of their loans. That method is to vary the rate of interest at which they are willing to lend; and the Bank of England, which shares with the Government the responsibility of keeping them supplied with legal tender, is expected to give them a lead in doing this. A fall in the rate of interest attracts borrowers, and a rise in the rate of interest chokes them off. Now these borrowers comprise not only English business men but also foreigners. If the rate of interest is low in England as compared (let us say) with America, Americans will find that it pays to borrow money in England.[1] Having

[1] For an account of the machinery of "finance bills" by which these borrowings are effected, the reader should consult the works

by this means acquired claims to English money, they will sell those claims in America for the dollars which they require in order to carry on their business transactions there; and the sale of these claims to English pounds will turn the American exchange against England.

Thus the rates of exchange at any moment are affected not only by the relation of the price-level in England to those in other countries, but also by the relation of the rate of interest demanded by the banks in England to the rates demanded in other countries. But these two factors are not entirely independent of one another. For if prices are rising farther in England than elsewhere, it indicates that the English banks are creating money too freely, and therefore probably that the rate of interest which they are demanding is lower than that prevailing elsewhere: and the reaction on the rate of exchange through the rate of interest and the volume of foreign borrowings is more direct and speedy than that through the price-level and the flow of goods.

Now under a gold standard this turn of the Exchange against England would alarm the English banking system; for if it were to progress far it would mean in effect that the foreign borrowers would use their claims upon English money to draw gold from London, rather than sell those claims in their own countries on disadvantageous terms. And in order to protect its gold reserves the English banking-system would raise its rate of interest, thus choking off the foreign bor-

of Mr. Hartley Withers, e. g. *Money Changing*, Chaps. VI and VII.

rowers and stemming the fall in the exchange. But this same rise in the rate of interest would choke off borrowers in the business world at home as well: and by thus decreasing the amount of vagrant money, and therefore the ability of buyers to buy, it would check the rise in home prices. Thus the foreigners by trying to borrow on easy terms, and the English bankers by fussing about their gold, would have secured an object which neither of them had directly at heart—the restoration of that equilibrium between the English and foreign price-levels upon which the stability of the exchanges ultimately depends.

§ 7. *The Degrees of Gold Standard.* That is how things actually worked in the old days; and there is no wonder that those who remember the simplicity and certainty of the procedure are anxious that we in Britain should go back to it. If, indeed, it seemed likely that no other country would ever go back to it, there would be a great deal to be said for having a shot at an ideal standard of our own, and letting the rest of the world go by; things could hardly be worse as regards the foreign exchanges than they are at present. But one of the countries with which our trade is most important—the United States—is already on a gold standard; and perhaps both the British Dominions and the countries of Europe are at least more likely, in the present state of human knowledge and resolution, to go back to something like a gold standard than to succeed in working any other. Here, then, is a further argument for going back to a gold standard—not that it is a good arrangement, but that it is the kind of arrangement at which any other

country which is seriously trying to get its house in order is in fact most likely to aim; and it is convenient that we should all be in the same boat.

It must be observed, however, that as there are degrees in Paradise, so there are degrees in the gold standard. We decided (p. 66) not to describe as having a gold standard those countries, like pre-war India, where the standard money was not made of gold, but was kept at a constant value in terms of gold by means of Government dealings in exchange, that is in the money of countries which had a true gold standard. But that is probably as far as it would be necessary or possible for most of the countries of Europe to go in the near future: in point of fact it is as far as Austria, and even to some extent Germany, really went as a rule before the war; for while they had a standard money made of gold, it was not easy to get hold of it in any large quantities, while it *was* easy to get hold of claims to draw gold from London. If most of the European countries were to abandon all thought of keeping great hoards of gold, and content themselves with accumulating claims on American or English money which they could sell to their citizens in case of need—in case, that is, their price-levels began to rise out of proportion to those of the rest of the world—stability would be achieved: and also the transition to a more rational standard of value as soon as human nature is ripe for it would be easier.

For ourselves, if we went so far, we should probably have to go further. London has acted so long and so successfully as the money center of the world that it is reasonable that it should desire to retain or recover that

position. And with a universal gold standard that can only be done by a readiness to provide, not mere claims on foreign money, but actual gold, for those who require for any reason to make payments abroad. But it is not necessary to dish out golden sovereigns, if lumps of naked gold will do as well: and it is not necessary, in order to keep the foreign exchanges stable, to dish out gold to those who only want it because it is less easy to tear up by mistake than Treasury notes. It would be possible, therefore, to keep the value of English money stable in terms of gold, and even to keep London as the money center of the world, without having a full gold standard as that phrase was understood before the war, and as it was defined on p. 67 of this book.

There is, however, one more thing that needs to be said. London's financial leadership is a source of direct profit to a few, and also of indirect benefit to many, because London's right to demand payment from foreigners for its services strengthens the lien which this country holds on the food products and raw materials of the world. At the outbreak of war it was a magnificent source of strength, and it is desirable in our own interests, and possibly even in those of the world, that it should continue. But there is some little danger that the strong vested interests thus created, by attributing to the gold standard, in season and out of season, not only the virtues which it possesses but also others in which it is singularly deficient, may delay unduly the day in which the world is ready for a more reasonable way of doing business.

CHAPTER VIII

MONETARY POLICY

"Well, in *our* country," said Alice, still panting a little, "you'd generally get to somewhere else—if you ran very fast for a long time, as we've been doing."

"A slow sort of country!" said the Queen. "Now *here*, you see, it takes all the running *you* can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that!"

"I'd rather not try, please!" said Alice.

Through the Looking-glass.[1]

§ 1. *The Causes of Falling Prices.* Let us assume then, at any rate for the sake of argument, that Great Britain would like to get its money-system back on to a gold standard, so as to give the pound sterling a stable value in terms of gold. The next question that arises is, What is that value to be? There are some people in whose minds this question admits of only one possible answer. In their opinion the gold value of the pound must obviously be brought back to what it was before the war, namely 113 grains of fine gold. And it would follow, of course, that so long as the American dollar retains its present relation with gold, the dollar value of the pound would be brought back to the neighborhood of 4.87 dollars. This, however, is not the only possible

[1] Cf. Hawtrey, *Currency and Credit*, p. 347.

view of what is desirable. In order to elucidate the objections to it, we must move by gradual stages.

The first question to consider is this: What has been the cause of the great fall in English prices which began somewhere about the spring of 1920? [1] Now to answer this question fully we should need to make a thorough study of those mysterious happenings called trade depressions. But that is a task which would lead us very far afield; for, in the present writer's view at any rate, the root causes of trade depression are not to be sought primarily in monetary events of any kind, but lie more deeply embedded in the economic structure of things. Nevertheless the falling price-level which is one of the symptoms of trade depression, can be discussed, if it cannot be completely explained, in terms of the analysis which has been employed in this book. We can connect the fall in the price-level which began in 1920 with changes both in the conditions of demand for money and in the quantity of money available.

As regards the former, the productive capacity of the world's agriculture and industry has begun to show signs of recovery from its meagre level of the post-armistice year: there have been big world harvests of wheat and cotton and other things, and in the United Kingdom at all events industrial plants have been getting back into respectable condition. Furthermore, the desire of merchants and traders of all kinds to unload their stocks of goods instead of holding them in the hopes of future gain has led to an increase in the effective flow of goods requiring to be exchanged with the aid of money.

[1] See the warning in the Preface, § 1.

The change in the quantity of money available is at first sight much less easy to detect. Published figures show that in the last six months of 1920 singularly little was done in this country in the way of restricting the quantity of either bank money or common money outstanding; and this apparent failure of the "quantity theory of money" has caused some difficulty to thoughtful observers. The difficulty disappears when we remember the special sense in which in Ch. II, § 7 we decided to use the word "available." The quantity of money *available*, it will be recalled, differs from the quantity *in existence* in two separate ways, each of which has recently been of importance.

First, the agility with which money changes hands has been diminished. We may agree with the newspapers in attracting some weight to the "consumers' strike"—to the determination of the public, once it had satisfied its most insistent post-war needs and cravings, to keep its money idling in its pockets rather than buy goods at what it regarded as exorbitant prices. And to this refractoriness of ultimate consumers must be added the reluctance of the business world, in a time of depression and uncertainty, to part with money in which debts can be paid and to sink its resources in the purchase of goods of which it may find it increasingly difficult to dispose. Thus money has become more unadventurous and domestic in its habits—there has been a decline in the velocity of its circulation.

But, secondly, the level of prices in the spring of 1920 was a level justified not so much by the quantity of money actually in existence as by the quantity believed to be likely to come into existence. It was in part the

unborn Bradburys which swelled the checking accounts (p. 114); and it was in part the unborn checking accounts which swelled the bids and the reserve prices of business men (p. 115). It follows that a mere refusal to go on manufacturing additional money was bound to involve some actual relapse of prices, and not simply a stabilization at the level already reached. Decisions already made, quotations already attained, could only have been supported if the money pump had been kept at work: yet to keep it at work would have meant to create fresh beliefs and expectations, and drive the level of prices still higher. Thus those in charge of monetary policy were faced with an unescapable dilemma. They held, and surely rightly, that it was their duty to stop driving up prices; but there was no way of stopping without also going backwards.

For all these reasons there is no wonder if in the winter of 1920–21 the price-level was saying, like Alice as she shot down the rabbit-hole, "I wonder if I shall fall right *through* the earth! How funny it'll seem to come out among the people that walk with their heads downwards."

§ 2. *The Effects of Falling Prices.* Our next question is this: What are the general consequences of a pronounced fall in the price-level? Let us suppose, first, that the fall is not accompanied by any corresponding increase in the real productivity of industry: and let us further suppose for the moment that it were to be brought about at one fell swoop, without any period of transition. As consumers we should all rejoice: but those of us who were traders would soon begin to wonder

how they were going to pay for their stocks of goods ordered at the old prices; and those who were employers would soon begin to think very seriously about their wages bill; and even those who were wage earners would begin to reflect that, whether or not automatically tied to the cost of living, their existing rate of money wages had been based on certain assumptions about the price-level which were no longer in accordance with the facts. Some of us would look forward to bankruptcy or heavy loss, and all of us to a good deal of unsettlement and dislocation while contracts and understandings and standards of calculation were being drastically overhauled.

Nor is this all. There is one contract to which, whether we like it or not, we are all parties, and of which it is not open to us to propose any revision, namely the payment of interest to our fellow-citizens on the War Debt, and the gradual repayment of the principal. That contract is fulfilled by means of taxation on incomes derived mainly from the sale of goods and services: and if the prices of all goods and services were to be halved, the rate of taxation necessary to fulfil that contract would be roughly speaking doubled. This is not the place to discuss whether this load of debt should have been, or should even now be, reduced by means of a general levy assessed on existing private wealth. But unless that step is taken, we must regard with suspicion any proposal to increase deliberately the value of money; for the inevitable consequence would be an increase in the rates and the real burden of taxation.

Next let us continue to suppose that the fall in the price-level is unaccompanied by any increase in the

real productivity of industry; but let us now suppose, as is indeed probable, that it is brought about gradually, and not at one blow. In one respect the results will be less serious; for there will be a breathing space to revise contracts and adjust expectations, and therefore less panic, fewer catastrophic failures. But in another respect the consequences will be more paralyzing. To develop this point we must once more pick up some threads which in earlier chapters have been left hanging in the air. In Ch. VI, § 2, it was pointed out that a rising price-level, by gratifying and stimulating those who hold the reins of business, tends to increase the volume of employment and the productivity of industry; and we may well inquire rather closely whether a falling price-level must not be expected to have an exactly opposite result. In Ch. VII, § 6, indeed, we glided over the process by which under a gold standard a rise in the price-level is reversed as though it were the most natural and painless operation in the world. But in Ch. IV, § 5, we accepted provisionally the opinion of the "more money" enthusiasts that a banking system which allowed a great or prolonged fall in prices would be failing to meet the requirements of a progressive community. Let us try to discover how the truth stands in this matter.

§ 3. *Falling Prices and Trade Depression.* Now once more we must walk carefully. A trade depression is a complex thing, and it would not be fair to ascribe all its evils to what may be a consequence rather than a cause of more deep-seated maladjustments. Nevertheless there is reason to think that a falling price-level is

not only a symptom of depression, but an active agent in increasing its severity and prolonging its duration. For let us consider how it operates. A downward swoop of the price-level reveals like a flare a line of struggling figures, caught in their own commitments as in a barbed-wire entanglement. Not one of them can tell what or how soon the end will be. For a while each strives, with greater or less effectiveness, to maintain the price of his own particular wares; but sooner or later he succumbs to the stream, and tries to unload his holdings while he can, lest worse should befall. And right from the start he has taken the one step open to him; he has cut off the new stream of enmeshing goods, and passed the word to his predecessor not to add to his burden. So the manufacturer finds the outlet for his wares narrowing from a cormorant's gullet to a needle's eye; and he too takes what steps occur to him. If he is old and wily and has made his pile he retires from business for a season, and goes for a sea-voyage or into the House of Commons. If he is young and ambitious or idealistic he keeps the ball rolling and the flag flying as best he can. If he is an average sort of manufacturer he explains that while he adheres to his previous opinion that the finance of his business is no concern of the working-classes, yet just so much financial knowledge as to see the absurdity of the existing Trade Union rate is a thing which any workman should possess. In any case,

Early or late,
He bows to fate,

and restricts in greater or less degree the output of his product. Thus two things happen which (it is believed)

cause much merriment among the inhabitants of other planets. The world deliberately adopts a standard of comfort lower than that which its natural resources and its capital equipment place within its reach, cutting off its nose, as it were, to spite its face. And men trained and (within limits) willing to work find no work to do, and tramp the streets with the parrot-cries of journalists about increased output ringing in their ears, and growing rancor in their hearts.

Now for one final point. It is clear that a fall in the price-level which is accompanied by a corresponding increase in the real productivity of industry does not carry all the disadvantages of one which is not. While, for instance, the burden of the National Debt will be increased in terms of goods, it will not be increased in terms of productive power: and the *proportion* of his real income which the average citizen must surrender to the holders of war loan will at any rate not be increased to the full extent of the rise in the value of money. It would be rash, however, to conclude that there will be none of the depressing effects on business activity and the volume of employment described in the last paragraph. This comfortable doctrine is indeed indorsed by high authority,[1] and is well calculated to appeal to the natural human desire to make the best of both worlds: but neither general reasoning nor the business history of the years 1873–96 affords its unqualified support. The assumption on which in Ch. IV, § 5, we granted the *prima facie* case of the "more money" enthusiasts was an assumption of in-

[1] Mr. McKenna, speech to shareholders of London Joint City and Midland Bank, January 28, 1921.

creasing goods, not of restricted money. It seems to be falling prices *per se*, irrespective of their cause, which both impose a real handicap on the business man in favor of the debenture holder and the wage earner, and damp his ardor by making that handicap loom larger in shadow than it turns out to be in substance.

It is true that the effect of restricting the world's output below its possible level is less grave if the actual level attained is greater than that to which men have grown accustomed. It is true also that while the unemployed workmen tramp the streets the employed increase their standard of comfort; and that the benefits might be more equally shared if Trade Unions had not such good reason for being unreasonable about their standard rates. But in any case it looks as if we could not have all the jam of increased productivity without some of the powder of business depression and unemployment.

Our general conclusion then must be that a pronounced fall in prices is not always an exhilarating or painless process, or one to be altogether welcomed with open arms.

§ 4. *The English and American Price-Levels.* The next point for consideration is this. How far have the forces operating to lower prices been at work at gold standard countries as well as in the United Kingdom? And how does the answer to this question bear upon the main subject of our inquiry?

As regards the first question, the answer is not doubtful. It was America and Japan which gave a lead to the world in 1920 in ushering in the fall of prices. In-

creasing productive capacity, unloading of stocks, hesitation in buying, all these things have been at least as pronounced in America as here; and, further, those in charge of American monetary policy seem deliberately to have set themselves not merely to refrain from increasing, but actually drastically to curtail, the volume of itinerant bank money. The result is that the American price-level has been falling more precipitately than our own. Now how does this fact bear on the question of what gold value we should aim at giving to the pound sterling?

Suppose we decide that we should like the pound to be worth 113 grains of fine gold, as it was before the war: and suppose for a moment the Government attempted to give effect to that decision by simply declaring that it was prepared to give 113 grains of fine gold in exchange for a pound to anyone who asked it to do so. Then it would at once become profitable for people in England to get hold of gold on an enormous scale, buy goods in (say) the United States and sell them in England, and with the pounds so obtained repeat the process. With her gold stocks in their present position, England would be drained dry of gold in a short space of time; but even if the Government prepared for its change of policy by collecting somehow a stock of gold, it would still have to protect that stock of gold in some such manner as that described in Chapter VII, § 6, that is by enforcing a rise in the rate of interest, checking the creation of bank money, and causing a fall in the price-level—a fall to which the vast imports of goods from the United States would also be contributing. In other words, any attempt to restore the gold value of the

pound from its present to its pre-war level must be associated with a roughly corresponding special fall (say of 20 per cent) in the English price-level relatively to the price-level in gold-standard countries. If American prices remain stable, English prices must fall by one-fifth; if American prices fall by one-third, English prices must fall by nearly one-half. Knowing what we have learnt in the last two sections about the results of falling prices, is this a conclusion which we are prepared to face with equanimity? Are we willing to engineer the extra 20 per cent fall of prices necessary to enable us to catch up with America, and restore to the pound its old gold value?

Now to this question there are two possible answers. Some will hold that we might as well be hanged for a sheep as a lamb—that since (to vary the metaphor) we are in for an ill wind, we should not try to temper it to the shorn lamb, but bid it blow a little harder, in order that it may blow at any rate some good. But others, whose daily life takes them oftener among factories and mean streets than into the parlors of the City of London, will not be able to shut their ears to that tramping of the unemployed men. They will not only recall how unemployment breaks the lives and spirits of those that suffer it: they will appeal also to the great and growing volume of conviction that its specter is the source of perhaps one-half of the disgruntlement of those who remain at work. Restriction of output, restriction of entry, restriction of inventive power, restriction of human kindliness and decent feeling—these are the acknowledged offspring of that terrible figure with the folded hands. And lest these arguments

should echo but faintly in Lombard Street and Whitehall, those who feel their weight can reinforce them with another—with that other specter of the National Debt fixed in money, whose burden would be increased by such an extra engineered fall in prices. We may well pause before demanding of our price-level that extra 20 per cent downward spurt necessary to enable it to overtake its American rival. For that extra 20 per cent may prove the last straw that breaks the back of the tax-paying camel—even the last breath of wind that fans the smouldering embers of resentment into the blaze of social revolution.

§ 5. *Revaluation of the Pound Sterling.* Such, then, is the completed case against the view, set forth in the first paragraph of this chapter, that we should aim at restoring to the pound its pre-war value in terms of gold and dollars. It is, in the present writer's opinion, a case so strong as to tell conclusively against the immediate harboring or inception of any such design. And from this negative conclusion, coupled with the admission that we should like to go back to a gold standard of some sort, the natural inference is that we should cut the knot by giving the pound a new official gold value based on its present market value in terms of gold and dollars. If gold were freely convertible into pounds sterling and pounds sterling into exportable gold at a rate of, say, 90 [1] grains of gold per pound sterling —some four-fifths of the pre-war figure—a gold standard could be established and maintained without the

[1] It would perhaps be worth in any case aiming at 92.89 grains, which would give a rate of exactly 4 dollars to the pound.

perilous aid of that last straw and that last breath of wind.

That only by a procedure of this kind can most of the European money-systems ever be planted back on any kind of gold standard is now generally admitted by reasonable men. But for England that solution is still generally dismissed as unthinkable. Against it is arrayed all the instinctive horror of a "debasement of the coinage" inbred in the posterity of the subjects of Angevin and Tudor monarchs. In point of fact most people follow with more or less lively interest the prices of goods, and very few the price of gold. Yet while those who lent to the Government before 1916 accept with nothing worse than a grumble the payment of interest and the repayment of principal in pounds depreciated in terms of goods, they would feel themselves cheated and outraged if paid in pounds avowedly revalued in terms of gold. Again, those who lent to the Government pounds of low purchasing power in 1917–20 have on the face of it no equitable right to be paid their interest and repaid their principal in pounds of carefully raised purchasing power: yet if by an open revaluation of the pound sterling they were robbed of their chance of making an unlooked-for gain, they would be up in arms in defence of the threatened rights of Englishmen. And private creditors would adopt, though perhaps with less rancor, a similar posture of injured virtue.

Now there is nothing good nor bad but thinking makes it so. If indeed we had to decide within an hour whether to fix the gold value of the pound for good and all at the whole or at four-fifths of its pre-war figure,

we should be compelled to take the bull by the horns and remind our creditors that their contracts are in terms of pounds sterling and not of gold, and that the national welfare forces us to give formal recognition to the undoubted fact that the relation between pounds sterling and gold is not what it was in 1914. But there are some who with the present writer will prefer to sit a little longer on the fence, and for the following reason.

Neither in this country nor in America are prices likely to go on falling forever. In America the huge reserves of gold, in England the vast outstanding mass of bank deposits and the goodly company of Bradburys which succeeded in struggling through the gates of birth, are lying as it were in ambush, ready at the appointed time to make their spring and force the level of prices up again. It may well be that the fantastic heights of 1920 will never again be reached; it may even be that, thanks to growing world productivity and a growing shortage of gold, the general trend of prices for the next quarter of a century will be markedly downwards. But experience bids us expect that that downward trend will manifest itself rather in a series of oscillations about a descending mean than in one continuous swoop. Now it may be true that so long as the American price-level is falling we cannot steal a march upon it without consequences calamitous to industry and dangerous to social stability. But it does not follow that if American prices should rise we might not manage to prevent our prices rising so fast or so far, without seriously checking the ardor of business men or restricting the expansion of opportunities for employment. In that event we might

even wake up one morning to find the pre-war rate of exchange with America not only being quoted in the market, but accurately reflecting the relative purchasing-power of the moneys of the two countries: and we might then proceed to proclaim the restoration of the old gold standard, amid much blowing of trumpets by the sound money men.

In these matters of prices then

> The end men looked for cometh not,
> And a path is there where no man thought.

A plethora of gold or a change in American banking policy might enable us to restore to the pound its old gold value without submitting to a disastrous fall in prices. On the other hand, a gold-famine or a "few hard winters" might force us, in spite of the disadvantages involved, to choose a still further fall in the gold-value of the pound as a lesser evil than national bankruptcy and social upheaval. After all, if our reasoning in Chapter VI was sound, a gold standard is no such haven of rest as it is often depicted. It is even possible that if we hold our hand now, public opinion a few years hence may permit us to take heroic measures, if at all, for a worthier end—the establishment of some more sensible international standard of value. In any case the year 1921 is perhaps not a year for far-reaching decisions which would provoke popular outcry, and might after all have to be rescinded.

§ 6. *The Manipulation of the Rate of Interest.* There is one more question of practical importance which requires mention. Whatever our decision about the

price-level, whatever our decision about the standard, there will be times when we require to make some alteration in the quantity of money in existence. It should be evident by now that in a country like ours, with a well-developed banking system, alterations in the quantity of common money must be ineffective or disastrous unless they are followed up by an appropriate loan policy on the part of the banks. Even a scheme like Professor Fisher's would presumably operate on prices mainly through its effects on the reserves and so on the loans of banks. Supposing, then, that in order to render a given monetary policy effective, the banks desire to expand or to curtail the volume of their loans, what procedure should they adopt?

Now English banking practice is a very obscure and intricate matter, on which the outsider can obtain very little information, and about which he must speak with caution. But one or two points seem to be fairly clear. To some extent, even in ordinary times, the banker controls the volume of his loans by exercising a kind of selective preference in favor of those borrowers who can provide him with good collateral (p. 95), or in whose probity, competence and business prospects he feels a particular confidence. But in the past, at any rate, the main instrument for controlling the total volume of bank loans has been the rate of interest at which the banks are willing to lend.

Bank loans resemble other things in that the quantity of them demanded is not fixed, but depends partly on the price at which they are offered—that is, on the rate of interest demanded by the banks. By making sufficiently bold and frequent variations in this rate the

banks could bring the quantity of loans demanded at any time into correspondence with the quantity which they intend to supply.

Apart from the direct effect on the foreign exchanges, discussed in Chapter VII, § 6, there is one general and two rather special arguments which can be put forward in favor of this way of doing things. The general argument is that it leaves the ultimate disposal of the loanable sum in the hands of the business world. The banks decide what total sum shall be lent, the business world decides how that sum shall be used; and the business world being a complex of specialists and experts in particular lines, while the banks are mere general practitioners, there is some reason for thinking that its judgment as to the directions in which the community's limited resources can be most fruitfully applied will be superior to theirs. A rise in the rate of interest charged by the banks chokes off those borrowers who do not feel confident that the public's demand for the product in which they are interested will justify their paying the higher rate: and this in the main is as it should be.

The special arguments refer to two classes of loan which are specially responsible, in times of trade boom, for sowing the seeds of future trouble, and for checking which a rise in the rate of interest seems at first sight a peculiarly appropriate instrument. The first consists in loans to those "speculators" who when prices are rising buy goods merely for the purpose of selling them again at enhanced prices. Now the ethics and economics of speculation in general lie outside the subject-matter of this book. It must suffice here to say that

speculation in some commodity of which there is likely to be a future shortage renders at any rate an incidental service to the community; but the kind of speculative activity which characterized the winter of 1919–20—a wild speculation in commodities in general, born of rising prices and expanding bank loans—serves no useful end, and is a chief begetter of the industrial depression which inevitably follows. Now by raising the price which speculators must pay for the wherewithal to carry their stocks of goods, bankers can reduce the profitableness, and so curtail the volume, of transactions of this kind.[1]

The second class of loans which especially needs pruning in times of trade boom is in its nature more commendable, but in its consequences hardly less disastrous. It consists in loans to those who are engaged in constructional enterprise, especially the construction of instruments of transport. Such loans take a peculiarly long time in increasing the flow of consumable goods; during their currency, therefore, they press with peculiar severity on the community's real income and accumulation of consumable goods, and exercise a peculiarly marked effect upon prices (pp. 90, 93). Now in enterprises of this kind, which take a long time in coming to fruition, the rate of interest which must be paid on money borrowed from the banks is a specially important consideration. A rise in that rate will therefore have some effect in diverting the community's resources into avenues where they replace themselves more quickly, and will tend to restrain society from

[1] Cf. Mr. McKenna, speech of January 28, 1921, already cited.

investing for a distant return more than it can really at the moment afford.[1]

§ 7. *The Rationing of Bank Loans.* Here are strong arguments for relying mainly on variations in the rate of interest for regulating the volume of bank loans; but before accepting them as conclusive we must look a little further.

First, it does not seem likely that such variations can ever be completely effective for either of the two special purposes just discussed, unless indeed they are made so large as to be intolerable to the bulk of the ordinary non-speculative business community. When once the speculative spirit is abroad it is not so easily exorcised. The man who expects to make a money gain of 20 or 30 per cent by merely sitting for a few months on some bales of cotton or some barrels of oil will not be put off by a rise of 1 or 2 per cent in the rate of interest which he must pay to his bank. Again, the future yields of constructional enterprise are at best difficult to forecast accurately or to bring into close comparison with present costs; and those who have made up their minds that what the world really requires is a Channel tunnel or an electrification of the railway system or a plan for harnessing the tides will not easily be persuaded otherwise. There are grounds, then, for suspecting that, in order to make their effect felt, moderate manipulations of the rate of interest need at least to be supplemented by some kind of direct rationing of bank loans: and if the *quality* of bank loans outstanding were thus more effectively controlled, their

[1] Cf. Cassel, Memorandum for Brussels Conference, p. 23.

quantity would no longer call for such rigorous restriction.

Secondly, the "Trust the business man" argument needs perhaps the same kind of careful scrutiny as the "Trust the man on the spot" argument in politics. The banker, seated at the heart of things, and not as a rule deeply entangled in any particular line of business, should be in some ways in a better position to form a dispassionate judgment on the relative prospects of different branches of industry than those whose business it is to hold that there is nothing like leather, or jute, or coffee, or whatever it may be. We must not underestimate the difficulty of the task set to the business world; but half a century of British shipping history (not to mention the recent story of the motor trade) forbids us to acclaim too enthusiastically the success with which it tackles it.

Thirdly, in the present temper of the world this argument must be reinforced by another. Production normally follows the behest only of those demands which can clothe and interpret themselves in terms of an offer of money. Now we may agree that this is an arrangement which it is neither possible nor desirable entirely to supplant (p. 6): but we may also reasonably hold that the communal mind is old enough and wise enough to be allowed now and again to announce that there is some one thing which, whether or not it is a paying proposition, it will insist on having done. The present generation seems to have so made up its mind about the provision of working-class houses; and he must be a bold man who, knowing and visualizing all the relevant social facts, declares that it is wrong. Now once such a

decision has been deliberately taken it seems merely vexatious to hamper its execution by forcing the enterprise in question to submit to the ordeal by rate of interest. By that ordeal it would be rejected; but we know that already, and we have deliberately decided in this instance to go behind the test of money value. In such circumstances it may fairly be urged that the banks, being, when all is said and done, the servants of the community, should be instructed or exhorted or entreated to give effect to its wishes by putting a generous ration of loans at the disposal of the selected enterprise.

Finally, it is worth noting that the general arguments which tell against any attempt in normal times to control the price and ration the supplies of ordinary commodities appear to apply with considerably less force to the case of bank loans. The first is the danger of drying up the new supplies of any article which is sold for less than it might be made to fetch: the second is the inconvenience caused by tying customers down to a particular retailer, and the danger of evasion. The first argument is irrelevant to the case of bank loans, since the very object at which we are aiming is a partial drying up of the supply. The second argument loses much of its force, especially where, as in England to-day the greater part of the business is in the hands of a few big and trustworthy banks. For people are much less likely to want to change their banker than their butcher, and we need not suppose any formal combination among the banks in order to feel pretty confident that they would succeed in detecting what the Americans call "double borrowing," [1] and in making tolerably

[1] Cf. Phillips, *Bank Credit*, pp. 302, 311–2.

effective any rationing policy with the spirit of which they were in broad agreement.

It seems evident that in dealing with the monetary situation of 1920, the leaders of English banking— acting, according to one of their number,[1] in complete independence of one another—applied these principles of selective rationing to a degree for which there was no precedent, and which would perhaps have scandalized some of their predecessors. That their control over the destination of their loans is still far from complete is shown by the complaint of another of their number[2] that business men are still borrowing from the banks to pay their taxes, a perversion of its proper function to which an ideal banking-system would clearly not submit. But we must not expect everything at once; and the present writer[3] ventures to hope, though not to predict, that the policy of qualitative discrimination has come to stay. Whether its permanent retention would not insensibly impel the great banks towards closer union, and whether that again would not involve a greater measure of direct State control over the operations of banking, is another question which need not be pursued here.

§ 8. *Conclusion.* Some reference has now been made to most of the pressing monetary problems of the present day. It is important that those problems should be solved rightly; but it is equally important that we

[1] Mr. Walter Leaf (London County Westminster and Parr's), speech of February 3, 1921.

[2] Mr. McKenna, speech of January 28, 1921, already cited.

[3] Reference may perhaps be permitted to his *Study of Industrial Fluctuation*, esp. p. 247.

should not expect too much from their solution. The real economic evils of society—inadequate production and inequitable distribution—lie too deep for any monetary ointment to cure. A "liberal" monetary policy might produce an atmosphere of confidence and elation, a "sound" one might restore a certain jejune stability: neither can turn a world which is unjust and poor into a world which is rich and just. The mending of the road over which the produce passes to market is no substitute for the digging and dunging of the fields themselves. No tinkering with counters will take us very far towards the discovery of an industrial system which shall supply both adequate incentives to those who venture and plan, and peace of mind to those who sweat and endure.

INDEX

Austrian crown, 145
Available money, 34, 37, 158

Bank deposits. *See* Deposits.
Bank loans. *See* Loans.
Bank money, 39, 40, 47; price-level and, 74; quantity, 47
Bank of England, 51; Government borrowing from, 106, 108
Bank of England notes, 60
Banking system, 53, 80; English, 171; English policy, 94; English sluggishness, 83; possible stagnation, 82; tending to excessive creation of money, 91, and reasons therefor, 93; United States, 56.
Banks, United Kingdom, 51
Beer, 3, 35
Borrowing, dangerous ease, 9; double borrowing, 176
Bradbury note, 39, 60; sovereign and, 65
Bradbury theory, 99, 100, 102, 113, 114
Business man, 175

Capitalist, 7
Caroline Islands, 130
Cash reserves. *See* Reserves.
Cassel, Professor, viii, 136, 174
Cause and effect, 113, 114
Checking account, 50
Checks, cashing, 53; relation to deposits, 47
Circulation, velocity of, 35, 89, 158
Clearing-house, 52
Collateral, 95, 105, 171
Common money, 39, 40, 47; deposits and, 57; quantity, 59; quantity as determined by Government and banks, 60; standard money and, 59; statistical connection with prices, 113
Consumer, advantage of money to, 4
Consumers' strike, 158
Consumption, changes, 25
Construction, loans for, 173
Contract, 13–14
Convertible money, 42, 47
Copper coin, 4
Cost of living, Ministry of Labor index, 24
Cost of production, 119
Crops, bank loans on, 75
Creation of wealth, monetary instability and, 13
Current account, 81

Debasement of the coinage, 168
Definition of money, 2
Demand and supply, 28
Deposits, checks and, 47, 49; common money outside bank reserves and, 57; reserves and, 50
Distribution of wealth, unequal, 11, 178
Double borrowing, 176

Economic progress, banking system and, 82
Economics, 85
"Essential condition," 113, 116

Exchange, fallacies about, 144; foreign exchanges, 135; influence on, 141; international token money and, 147; normal rates, 135; price movements and, 138; rate, how determined, 136; under a gold standard, 150

Fallacies about exchange, 144
Farmers, bank loans to, 75
Federal Reserve Board, 57, 61
Finance bills, 151
Fisher, Irving, viii, 132, 134, 171
Foreign exchange, 16; *see also* Exchange
Full legal tender money, 41, 42
Full-bodied money, 46, 47, 63

"General level of prices," 28, 32
German mark, 145, 147
Germany, exchange position, 143
Glass eye, 130
Gold, changing value, 69, 126; cost of production and quantity of money, 68; as a fetish, 130, 131; migration and the price-level, 100; premium, 65; uncertainty of future prices, 127
Gold coin, 42, 45
"Gold exchange standard," 71, 72
Gold mining, 69
Gold standard, 64; case against, 125; case for, 128; degrees of, 153, 154; exchange rates and, 135; exchange under, 150; meaning, 66; reason for return to, 153; the war and, 101
Government, quantity of money and, 59, 60, 62; responsibility for rise in prices, 102

Hawtrey, R. G., viii
Henderson, H. D., vii, viii

Illusion, 124
Index-numbers, absurd result in applying, 22, and its reason, 23; difficulties in constructing, 19; Ministry of Labor index-number of the cost of living, 24; provisional solution, 24; purpose, 20; unreliability, 25
India, 46, 48, 66, 127; standard money, 71
Instability, monetary, evil effects on creation of wealth, 13; evil effects on distribution of wealth, 11
Interest, 76; on bank loans, 79; banks and, 82; manipulation of rate, 170
International authority, 148, 149
International loan, 150
International money, exchange and, 147

Keynes, J. M., viii, 128
Kinds of money, 39; classification, table, 47

Leaf, Walter, 177
Legal tender, 41, 42, 47, 59
Lending, dangerous ease, 9
Loans, 8; case for creation of additional, 84; dangers of additional, 87; for construction, 173; expanding or curtailing, 171; interest on, 79; international, 150; objections to, 74; provisional justification, 76; rationing of, 174; selective rationing in 1920, 177; for speculation, 172; Treasury notes and, 109
London as money center, 154, 155

McKenna, Reginald, 163, 173, 177
Maria Theresa dollar, 41, 47

Marshall, Alfred, viii
Medium of exchange, 3
Ministry of Labor index-number of cost of living, 24
Monetary policy, 156
Money, unimportance, vii, 1
"More-money" enthusiasts, 84, 86, 91, 94, 124, 161

Optional money, 42, 47
Output, price-level and, 98

Payments in advance, 8, 75
Pigou, A. C., viii
Pound sterling, dollar value, 145; revaluation, 167; value, 156, 165
Price-level, American and English, 164; bank money and, 74; case for a gently rising, 122; case for variation inversely with productive power, 118; cause of changes, 85; causes of falling prices, 156; difficulties of measuring rise and fall, 20; effects of falling prices, 159; English and American, 164; exchanges and, 138; gold migration and, 100; money and, cause and effect relation, 114; output and, 98; prospect of rising prices, 169; statistical connection with common money, 113; stimulus of rising prices, 123, 124; trade depression and falling prices, 161; Treasury Bills and, 105; Treasury Notes and, 111; the war and, 98; the war debt and, 102; Ways and Means Advances and, 105, 107
Producer, advantage of money to, 6
Production, 175, 178; price-level variation and, 118

Quantity of money, 39; of bank money, 47; of common money, 59; cost of production of gold and, 68; price-level and, cause and effect relation, 114; of standard money, 62
"Quantity of money available," 34, 37, 158
"Quantity theory of money," 32

Repudiation of contracts, 14
Reserves, deposits and, 50; magnitude of bank reserves, 53
Rules, 57
Rupee, 45, 47; value, 71

Sauerbeck, Mr., 22
Saving, 9, 76
Silver coin, 41
Sovereign, 43, 47, 60, 65
Speculation, 172, 174
Standard, an improved, 131; question of the, 118
Standard money, 42, 44, 47; common money and, 59; quantity, 62
Standard of value, 3
Statist, 22
Stock banks, 51
Stone money, 130
Subsidiary money, 42, 47
Super-Selfridge, Mr., 77
Sweden, prices and war conditions, 142

Taxation, 160
Token money, 46, 47; as improved standard, 132; international, 148
Trade depressions, 157; falling prices and, 161
Treasury Bills, 105
Treasury Note Department, 112

Treasury Notes, bank loans and, 109; price-level and, 111
Truck system, 6, 7
"Trust the business man," 175

Uap, 130
Unemployment, 164, 166
United Kingdom stock banks, 51
United States national banknotes, 46, 47

"Value of money," 11; changes in, 18; comparisons of different places, 27; definition, 17; differences between money and things, 30; effect of quantity, 32; practical determination, 28
Velocity of circulation, 35, 89, 158

Wage payments, 7
Wages, 121
War, price-level and, 98
War debt, 160; price level and, 102
Ways and Means Advances, 105, 107
Withers, Hartley, viii

CAMBRIDGE ECONOMIC HANDBOOKS

General Editor: J. M. KEYNES, *Fellow of King's College, Cambridge. Author of "Economic Consequences of the Peace," etc.*

Assistant Editor: H. D. HENDERSON, *Fellow of Clare College, Cambridge.*

READY

SUPPLY AND DEMAND

By H. D. HENDERSON, M.A., Fellow of Clare College, Cambridge: University Lecturer in Economics.

MONEY

By D. H. ROBERTSON, M.A., Fellow and Lecturer of Trinity College, Cambridge.

IN PREPARATION

THE DISTRIBUTION OF WEALTH

By G. F. SHOVE, M.A., King's College, Cambridge.

PUBLIC FINANCE

By M. C. ROBINSON, Lecturer in Economics at Manchester University; Director of Studies in Economics at Newnham College, Cambridge.

THE CONTROL OF INDUSTRY

By BARBARA WOOTTON, Director of Studies in Economics at Girton College, Cambridge.

POPULATION

By HAROLD WRIGHT, M.A., Pembroke College, Cambridge; Member of the Advisory Committee on Fishery Research.

NEW YORK: HARCOURT, BRACE AND COMPANY
LONDON: NISBET & CO., LTD.
CAMBRIDGE: AT THE UNIVERSITY PRESS

JAN 4 1962

77

PLEASE DO NOT REMOVE
CARDS OR SLIPS FROM THIS POCKET

UNIVERSITY OF TORONTO LIBRARY

HG
221
R56
1922a

Robertson, (Sir) Dennis Holme
Money